SECURITY BY THE NUMBERS
Another industry group takes a stab at creating metrics for assessing IT security measures. PAGE 10

HE HAS CONNECTIONS
Health care CIO John D. Halamka is always connected — at work, in his car, even on top of Grand Teton. PAGE 17

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IT certifications

are still important to some hiring managers, but many say that **hands-on experience** trumps **book knowledge** any day.

SEE 'CERTIFIABLE' ON PAGE 35

Financial Services Wary of Outsourcing Key Projects

Firms fear weakened control and privacy, backlash to job losses

BY LUCAS MEARIAN
NEW YORK

IT managers interviewed last week mostly agreed with a Gartner Inc. prediction that less than 30% of financial services companies will be outsourcing strategic projects by the end of next year.

At the Gartner Financial Services Summit here, IT executives said they do favor using outsourcers for more routine tasks like maintenance or call center operations, but not for important projects where strong oversight is essential.

Though the Gartner report released at the conference suggests that IT organizations

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SPECIAL COVERAGE: GULF COAST CATASTROPHE

Hurricane, Floods Put IT Staffs to the Test

Disaster recovery works for some, but scope of calamity was difficult to prepare for

BY LUCAS MEARIAN

At 2 a.m. on Aug. 27, two days before Hurricane Katrina devastated the Gulf Coast, Tim Babco grabbed a red binder containing the latest version of SCP Pool Corp.'s disaster recovery plan, put his dog and cat in the car, locked up his house and drove 500 miles from Covington, La., to the company's emergency operations center in Dallas.

Babco, senior director of IT at Covington-based SCP, a $1.3 billion wholesale distributor of swimming pool supplies, had relocated his operations on two earlier occasions when hurricanes threatened neighboring New Orleans. Both of those storms turned out to be near misses, but Babco said last week that the practice runs helped him fine-tune his plan for when the real thing finally hit.

"People would be lying to say these things always go perfectly," Babco said. "But has it succeeded in allowing our business operations to continue to buy, sell and distribute products? It certainly has, and that's what disaster recovery is all about."

However, the kind of disas-

Katrina, page 4

New Orleans tech workers relocate to higher ground and start trying to restore operations

...in the wake of Katrina left most of New Orleans uninhabitable

BY MARC L. SONGINI AND TODD R. WEISS

IT managers and staffers at New Orleans-based companies worked last week to salvage their systems, data and Web sites, some not knowing whether they still had viable businesses to support or homes that they could return to.

COPING WITH KATRINA

"We're not thinking of ourselves," said Robert Leithman, president of Integrated Data Systems Inc., a systems integrator and hosting services provider. "It's helpful not to have time to think about it."

Leithman's company was one of many scrambling to maintain operations in the wake of the devastating flooding that followed Hurricane Katrina. In a catastrophe of such epic proportions, "even the best-laid plans go awry really quickly," said Leithman, who left New Orleans two days before the storm hit to go to a backup facility in Florida.

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MOBILE/WIRELESS: Tom Whittaker of iAnywhere Solutions says the Web is a great development environment for mobile applications. QuickLink 55695

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COPING WITH KATRINA

Telecommunications Slowly Improving, But Problems Remain in New Orleans

Vendors unsure when service will be fully restored

BY MATT HAMBLEN

CELLULAR and other communications services were gradually improving in the Gulf Coast region late last week, but telecommunications companies said they still couldn't gain access to most parts of New Orleans to make repairs to their networks.

On Thursday, Sprint Corp., Cingular Wireless LLC, Verizon Wireless and BellSouth Corp. all reported that their repair crews were in holding patterns around New Orleans. Cingular said on Friday that it had begun deploying crews into the city but that access was still very restricted.

Telecommunications capabilities had improved in cities such as Baton Rouge, Mobile, Ala., and Pensacola, Fla., since the immediate aftermath of Hurricane Katrina, according to spokesmen for the carriers.

The companies are all relying on backup generators or portable ones carried on panel trucks along with cellular transceivers. They said that when possible, they're increasing power to rooftop cell sites in New Orleans in order to provide some level of services inside the stricken city.

Despite a massive effort with thousands of repair workers on the scene, the situation is obviously difficult, said Jeff Kagan, an independent telecommunications analyst based in Atlanta.

"All the carriers are still in survival mode," he said. "Some cities are better than others, but it is all one big mess. This is much worse than the 9/11 emergency. It isn't just a part of a city like New York. It's the entire Southeast that has been devastated."

Not Completely Wireless

Typically, only a small portion of a cellular call is carried over wireless links, with cell sites connecting to switching stations and the rest of a network via T1 or fiber-optic cables. "Flooding has its most dramatic effect on land lines, such as T1s and fiber," said Verizon Wireless spokesman Patrick Kimball.

> BellSouth said that of about land-line phones that were knocked out of service in Louisiana as of midday on Thursday.

Bill Oliver, president of BellSouth's Louisiana operations, said that even in areas where service had been restored, network congestion was high and land-line users often were unable to complete calls. BellSouth and other vendors urged users to consider text messaging as an alternative to voice calls, partly because it requires less bandwidth.

None of the carriers would predict when full service will resume, but Oliver pointed to "key fiber breaks" in southeastern Louisiana that will take more resources to repair.

Some companies in the Gulf Coast region are relying on internal communications backup plans in the storm's wake.

For example, Siemens Enterprise Networks is working with a power utility in Mississippi that has equipped its repair crews with voice-over-IP phones so they can make wireless calls via a satellite network, said Tim Perez, a sales director at the division of Siemens Communications Inc.

Perez, who wouldn't identify the utility, said the VoIP system has been the main means of voice communications for utility crew supervisors in the field, supplemented by BlackBerry handhelds from Research In Motion Ltd. for e-mail access. **56581**

Continued from page 1

Katrina

ter recovery planning done by Babco isn't universal — especially for a calamity as massive as last week's, Gartner Inc. analyst Simon Mingay said that about 40% of Fortune 1,000 companies aren't prepared for a regional disaster. And small and midsize businesses are even less ready, he added.

"Obviously, we're looking at a level of devastation here that few would have considered," Mingay said. "But most still believe that these are things that don't happen to them."

Mingay said companies that have prepared properly for disasters, such as SCP, have extensive emergency communications plans, hot sites from which they can continue business operations for an extended period and some level of IT systems redundancy outside of their headquarters region.

But even companies that are well-prepared might not take into account a crisis of the magnitude as the one spawned by Katrina and the flooding that followed the storm.

For example, John Wade, CIO at Saint Luke's Health System Inc. in Kansas City, Mo., said his contract with a disaster recovery vendor allows the IT department to work out of a hot-site facility for up to six weeks. But in a disaster similar to Katrina, the six-week limit could "pose a hardship," Wade said.

Joe Hartman, an application development manager at HydroChem Industrial Services Inc. in the Houston suburb of Deer Park, said the company's disaster recovery plan involves moving corporate operations to facilities on the city's north side. "Anything that would completely wipe out Houston would leave us in a bad way," he added.

Babco said SCP's headquarters were unscathed by Katrina and the flooding that followed but lost all data and voice communications links. Fifteen of the company's 40 IT workers have relocated to Dallas for now, while another 15 were dispersed among offices around the country.

Three years ago, Babco decided to flip-flop SCP's primary and secondary data centers, placing its critical systems in the Dallas facility, which is run by Houston-based VeriCenter Inc. He also created an IT disaster recovery team for functions such as coordinating help desk services and relocating hardware. In addition, SCP has set up an internal business-continuity Web site that posts corporate alerts and provides toll-free numbers and an extensive list of employee contact information.

Not everything went completely smoothly last week. On Tuesday, Babco made an unplanned trip from Dallas to SCP's headquarters to retrieve 12 application servers, including ones supporting human resources and e-mail.

He also said he has been unable to get a response from Boston-based Iron Mountain Inc., which handles off-site data storage for SCP. The area around Iron Mountain's Kenner, La., facility is inaccessible, said Babco, who added that he would have liked to have had SCP's backup tapes sent to Dallas in advance of the storm.

"They've not been able to provide us any information about when they will be able to get tapes out of their facility," Babco said. "I think they

COPING WITH KATRINA

Retailers Unsure About Status of Stores, Systems

IT issues take a back seat to concerns about workers, damage and looting

BY CAROL SLIWA

THREE OF Burlington Coat Factory Warehouse Corp.'s retail stores in Louisiana, and another one in Alabama, were closed in the aftermath of Hurricane Katrina's ravaging of the Gulf Coast. And at midweek, Mike Prince, CIO at the Burlington, N.J.-based chain, didn't know if the buildings — and their IT systems — were still standing.

> **"Nobody can get close to those stores."**
>
> MICHAEL PRINCE, CIO, BURLINGTON COAT FACTORY

"Nobody can get close to the stores," Prince said. He had heard reports that two of the stores in the New Orleans area were underwater. But he wasn't able to confirm the information because of the lack of power and communications capabilities after the storm.

Likewise, Circuit City Stores Inc. couldn't get to four of its stores the day after Katrina swept through, according to a spokeswoman. The Home Depot Inc. said six stores remained closed late last week because of inaccessibility. A Lowe's Companies Inc. spokeswoman said that five stores were closed and that telecommunications problems were making it hard to reach stores and local employees.

"The immediate issues these guys are wrestling with are store destruction, looting and the loss of power," said Gartner Inc. analyst Jeff Roster. "It's a store operations issue more than an IT issue."

But retailers did take IT into account in advance of the storm. For example, one national specialty retailer closed eight of its 10 Florida facilities the day before Katrina hit to give employees enough time to get home to their families, said the company's vice president of operations, who asked not to be named. He said the closings also allowed the retailer to complete an orderly shutdown of its store systems, based on a set of procedures instituted after last year's series of hurricanes in Florida.

Katrina swept through Jackson, Miss., where Saks Inc.'s data center is located. The company said it lost power for three days, but emergency generators kept the business running, and it didn't have to activate its disaster recovery plan and relocate operations.

More commonly, retailers tried to monitor Katrina's aftereffects from farther afield. For example, Food Lion LLC, a Salisbury, N.C.-based grocer, kept key employees informed about the status of 50 affected stores, most of them located in Tennessee, through a "disaster tracker" application it developed two years ago.

Recognizing that an earlier application based on e-mail and spreadsheets was hard to access on a broad basis, Food Lion's developers brought together a cross-functional team of end users to set requirements for the disaster tracker. The group analyzed disaster-related business processes, action plans, workflows and communications, said Doug Miller, the company's director of store systems.

The developers then tried to automate as much of the disaster response as they could through the Web-based application, which was written in Microsoft Corp.'s Visual Basic .Net language. Each type of event has a set of tasks that apply to different departments and employees, Miller said. Network monitoring lets everyone know which stores are down, and a central view helps employees spot which stores need a generator or a refrigeration truck.

In previous disasters, Miller said, the use of the software resulted in "situations where we were the only grocery store in a particular neighborhood that was operating."

56593

weren't proactive in seeing the event looming and getting the tapes out of harm's way." He vowed to switch to a different storage archiving vendor.

Ken Rubin, senior vice president of marketing at Iron Mountain, said the company moved requested data tapes to customers' facilities beginning Aug. 26. It also put the tapes in its sites on higher shelves. "We don't know once the levees broke what impact or not there is to any of the contents of the buildings," Rubin said. "We're trying to get in."

Richard Kerley, chief operating officer at Shutts & Bowen LLP, said three of the Miami-based law firm's offices in Florida were hit by multiple hurricanes last year. "We could have had a situation where our main [data center] site in Miami was taken out, and the cold site in Orlando was taken out, and we were decapitated," Kerley said.

Six months ago, Shutts & Bowan signed up for data center space in a reinforced concrete bunker owned by Terremark Worldwide Inc. in Miami. Kerley said the law firm's neighbors in the bunker include the State Department, the Department of Defense and the Federal Emergency Management Agency.

56588

Carol Sliwa contributed to this report.

Hot Sites Get Heavy Usage

SAINT LUKE'S HEALTH SYSTEM conducted a test of its disaster recovery procedures in August and planned to do another one late this month, said CIO John Wade. But in a sign of Hurricane Katrina's effect on IT operations, the health care provider's hot-site vendor canceled the September test last week because so many of its other clients have declared disaster situations, Wade said.

Bob DiLossi, manager of SunGard Data Systems Inc.'s crisis management center, said the Wayne, Pa.-based vendor has contracts for disaster recovery services with 146 companies in the area hit by Katrina. Of those, 24 had declared disasters as of Thursday, and 120 had issued disaster alerts, DiLossi said.

SunGard has three emergency data centers in Texas, and it's sending mobile data centers to the Gulf Coast region. In addition, DiLossi said SunGard has been trying to reach out to customers in the New Orleans and Biloxi, Miss., areas. But it has had trouble making contact with them because of telecommunications outages.

Belinda Wilson, executive director of business continuity services for the Americas region at Hewlett-Packard Co., said most of the customers seeking HP's help are asking for offices and work areas that they can use. "It's really been tough," she said. "It's just chaos."

The job ahead appears enormous for IT, said Bill Oates, CIO at Starwood Hotels and Resorts Worldwide Inc. Disaster planning typically "isn't assuming that you're going to have extended problems" of the sort caused by Katrina, he said.

– Lucas Mearian, Carol Sliwa and Todd R. Weiss

COPING WITH KATRINA

Continued from page 1

Recovery

The trip, which normally takes about five hours, was a 15-hour ordeal. One of the company's engineers, who thought he was in a safe location, saw the building's roof ripped off by winds. And even though Integrated Data Systems had distributed its servers and data among offices in several cities following the Sept. 11 terrorist attacks, the loss of telecommunications capabilities in the areas waylaid by Katrina complicated its efforts to restore customers' systems.

One of the company's hosting centers, located near the stricken Superdome in New Orleans, remained inaccessible late last week. Another, which is set up in a bunker in nearby Metairie, La., was live but lacked any external connectivity, Leithman said.

Still, his team had restored basic Web access, instant messaging and Hotmail services and was doing work for corporate clients such as McIlhenny Co., the New Orleans-based maker of Tabasco sauce. Integrated Data Systems set up a temporary Web site for McIlhenny and provided e-mail access to its employees. "Things are far from normal, but at least we're getting the semblance of it," Leithman said.

The situation was similar for the IT staff that supports the three hotels operated in New Orleans by Starwood Hotels and Resorts Worldwide Inc., said IT executives at the White Plains, N.Y.-based company.

As the storm approached, four IT workers moved servers and other equipment from the ground floors of the hotels to higher ones. They also did extra backups of on-site data, including catering contracts and sales information for upcoming conventions and meetings. In addition, the staffers hooked up phones and computers in ballrooms, where stranded guests were moved for safety reasons.

By Tuesday, when it became obvious that the damage to the city from the hurricane and the flooding wouldn't be reversed quickly, the IT team began preparing to shuttle copies of the hotels' data to a Starwood-owned Westin hotel in Atlanta, where a remote office is being set up.

Mark McBeth, director of IT for North America at Starwood, said business users need the data so they can work with customers to move scheduled events to other locations. He and Starwood CIO Bill Oates praised the staffers in New Orleans for their ability to deal with the data-retention issues as well as the IT needs of guests and other hotel employees. "You just sort of cope," McBeth said. "The team was dealing with a crisis, and they don't even know if their own homes are OK."

Brad Brewster, founder and creative director of New Orleans-based Bent Media Inc., said the interactive multimedia and marketing services firm's offices were surrounded by five feet of water. Brewster temporarily relocated his servers to a makeshift office in West Monroe, La. As of Thursday, his 13 employees were scattered in hotels or with friends, or were still in transit to safe locations.

Brewster was busy trying to contact clients to see what they needed. One of Bent Media's businesses is managing Web sites for companies, some of which were also located in New Orleans. Clients that depend on online transactions want to post messages to customers on their sites immediately, Brewster said. Others are just focused for now on messaging employees or establishing an intranet.

"Many cannot do business," Brewster said. "They don't know where their employees are. Some business facilities may be damaged or underwater and destroyed."

With his own company's intellectual assets in hand, Brewster expects Bent Media to continue working as a virtual organization in the short term. "Our clients need us, and like anyone, we need revenue," he said. "And that becomes even more important given our situation." 56595

HP Forced to Put Off User Conference

Bowing to the flooding catastrophe that has befallen New Orleans, Hewlett-Packard Co. postponed the inaugural HP Technology Forum user conference it was scheduled to hold in the city next week.

HP initially said in a statement posted on the conference Web site that it was monitoring the situation in New Orleans and assessing the viability of going ahead with the event. But as the extent of the flooding became apparent, HP updated the statement, saying it was working "to determine a time in the fall when we can host the conference."

HP didn't indicate where the conference might be held. The company said it will announce the details of a new plan for HP Technology Forum 2005 by Friday. HP added that it's indefinitely extending the cancellation period for would-be attendees in order to give users time to decide whether they can go to the rescheduled conference.

All hotel reservations that were booked in New Orleans through the conference Web site will be automatically canceled without financial penalty, HP said. The company is also working with airlines to transfer any nonrefundable airline tickets so they can be used to get to the conference when it finally takes place.

The HP Technology Forum is the first general user conference sponsored by HP itself. Encompass, an independent HP user group, is due to jointly manage the conference with the vendor, and the OpenView Forum International and ITUG user groups each have said they plan to have a presence at the event.

The disaster in New Orleans will also affect the Service & Support Professionals Association, a San Diego-based trade group for IT vendors and other companies with technical support and field service operations. The SSPA said it was working to "solidify the details" of its fall conference, which was scheduled to be held in New Orleans starting Oct. 9.

– Craig Stedman

Flooding Complicates Relief Agency's IT Plan

BY TODD R. WEISS

Before Hurricane Katrina struck the Gulf Coast, the American Red Cross made plans to quickly deploy mobile servers, satellite communications equipment and other IT gear in affected areas to support its efforts to help storm victims begin piecing their lives back together.

But the extensive flooding in New Orleans and the government's plan to evacuate residents from the chaotic city complicated matters for the relief agency. The Red Cross last week was still working out plans for distributing much of the equipment it had staged in areas outside of the storm's projected path as Katrina approached the southern U.S.

The equipment that the Red Cross had available included nine specially designed Ford Excursion sport utility vehicles equipped with various radio systems. The technology lets relief workers communicate on a wide range of frequencies across disaster areas, said Jason Wiltrout, a network engineer at the Washington-based Red Cross.

The Emergency Communications Response Vehicles (ECRV) include generator-equipped satellite dishes that can help establish communications in the absence of working phone lines and cell phone towers, Wiltrout said. Each of the ECRVs also has 10 voice-over-IP satellite phones and at least the same number of laptop PCs with wireless connections, he added.

The Red Cross will also use IP-based fax machines and mobile servers built into containers that are similar to a pair of shipping crates, Wiltrout said. Each unit, which includes a server, a Cisco Systems Inc. router and switch, a keyboard and a monitor, will enable the agency to keep records on disaster victims receiving aid from Red Cross workers.

Martin Franke, executive director of chapter information systems at the Red Cross, said relief workers can use the laptops in the ECRVs to collect names, addresses and other information from victims. The data is then transmitted wirelessly via the portable servers to a central database that's tied to CRM applications developed by Siebel Systems Inc.

Using the central database, the agency can issue debit cards to victims to provide them with fixed amounts of emergency funds for housing, clothing, food and other essentials, Franke said. 56592

To donate money to help the victims of Hurricane Katrina, call 1-800-HELP-NOW, or go to www.redcross.org.

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The HP ProLiant BL20p G3 blade server is the Intel-based [illegible] simplified management. In fact, it's so simple, you can even manage it remotely through leading Web browsers using HP iLO technology. And not only is it simple to manage, it's also simple to monitor and set up. It all starts with the Rapid Deployment Pack, giving you an automated setup process to configure and deploy servers at high volume and a rapid pace. Then HP Systems Insight Manager[1] gives you a real-time overview of system performance, even alerting you to potential problems before they occur. Plus, you can bundle it with the HP StorageWorks MSA1500cs to make storing your data simple, scalable and affordable. So with HP, you get more expertise before you buy, more technology when you do and more support after. Wherever you happen to be.

SMART ADVICE > SMART TECHNOLOGY > SMART SERVICES

hp

1. Intel's numbering is not a measurement of higher performance. 2. Receive up to 2TB of storage free with purchase of HP StorageWorks Modular Smart Array 1500cs devices. Offer valid through 10/31/05. 3. Save $750 instantly on the purchase of a BladeSystem pClass 1U power enclosure solution. Offer valid through 10/31/05. All offers available from HP Direct and participating resellers. Prices shown are HP Direct prices, are subject to change and do not include applicable state and local sales tax or shipping to recipient's destination. Reseller prices may vary. See Web site for full details. Photography may not accurately represent exact configurations priced. Associated values represent HP published list prices. Intel, Intel Inside, the Intel Inside Logo and Intel Xeon are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. ©2005 Hewlett-Packard Development Company, L.P.

AT DEADLINE

Glaxo Signs $100M Outsourcing Pact

GlaxoSmithKline PLC and Affiliated Computer Services Inc. have signed a five-year, $100 million outsourcing contract. Under the agreement, ACS will provide monitoring and management services for more than 5,000 Unix, Wintel, OS/390 mainframe and OpenVMS servers in the pharmaceutical firm's data centers in the U.S. and the U.K.

Massachusetts May Replace Office Suite

The Massachusetts state government's IT operation has proposed a plan to phase out use of Microsoft Corp.'s Office software in favor of office productivity suites that support an open-document format from the Organization for the Advancement of Structured Information Standards. Suites that support the open-source format include OpenOffice, StarOffice, KOffice and IBM Workplace.

Intel Files Response To AMD Charges

In a filing in the U.S. District Court in Delaware, Intel Corp. formally responded to an antitrust complaint lodged by rival Advanced Micro Devices Inc. in June. In its statement, Intel denied that it violated any laws and accused AMD of trying to shield itself from competition. AMD charged that Intel illegally uses its position as a dominant processor supplier.

Judge Nixes SEC Complaint vs. Siebel

A U.S. Securities and Exchange Commission complaint against Siebel Systems Inc. charging that the company violated disclosure rules has been dismissed by a federal judge. Judge George Daniels ruled that the SEC overreached by excessively scrutinizing vague comments made by Siebel executives at a dinner meeting with analysts.

ON THE MARK

HOT TECHNOLOGY TRENDS, NEW PRODUCT NEWS AND INDUSTRY BUZZ BY MARK HALL

Music Labels Singing New Tune for . . .

. . . business process management. Rivals Universal Music Group and Warner Music Group have gotten together with venture capitalist Lightspeed Venture Partners and BPM vendor Exigen Group to form Royalty Services LP, which will create a shared

application that can calculate royalty payments to musicians and copyright holders. Joe DeTullio, CEO of the New York-based joint venture, is a former Universal Music CIO. The approach being taken by Royalty Services is "a different model than what I've been doing in IT for the past 20 years," DeTullio says. The new model has Universal and Warner sharing the development costs and risks for what they're calling a shared royalty platform, or SRP. The project, which began in July 2004, is due to produce alpha code in November and a final release late next year or in early 2007. Before it's complete, the initiative will consume tens of millions of dollars, DeTullio says. However, he claims that once it's in production, the application will "provide more than $100 million in value to Universal and Warner." The anticipated value comes from eliminating the enormous complexity involved in calculating royalties on thousands of contracts signed over many decades with countless artists and copyright holders. In addition, the SRP will be able to calculate the royalty differences based on how revenues are generated — for example, digital downloads vs. product sales.

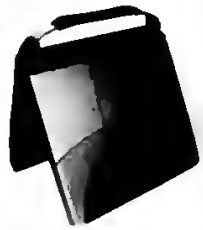
So far, more than 5 million business rules have been created in the SRP, says Mark Christiansen, vice president of marketing at San Francisco-based Exigen. According to DeTullio, the new application will replace existing royalty systems that are mainframe-based and run Cobol code "that's been updated, enhanced, morphed and transformed for over 20 years," he says. Exigen's Java-based BPM software runs on either Unix or Linux. He says Royalty Services will also seek to work with other music labels or entertainment-based royalty-processing businesses, such as book publishers, once the SRP is in production. Christiansen argues that royalty payments are "just another back-office thing" and don't help entertainment companies differentiate themselves. So, his argument goes, users might all just as well be singing from the same back-office hymnal.

IT patching process is full of holes . . .

. . . a vendor survey reveals. Help desk software vendor SupportSoft Inc. used Quality Research Associates in Foster City, Calif., to poll 112 desktop systems managers, 168 IT help desk managers and 369 users in companies with 5,000 or more employees to determine how their patch management processes were working. Not too well, concludes Bruce Mowery, vice president of marketing at Redwood City, Calif.-based SupportSoft. For example, 55% of all the IT managers surveyed said they didn't know whether the patches that they've deployed actually worked. "They're in the dark until something bad happens," says Mowery.

Butter-fingered end users can get . . .

. . . their hands on a sturdy laptop. Itronix Corp., a Spokane, Wash.-based maker of ruggedized computers for the military and other rough-and-tumble users, this week is releasing its semirugged VR-1 laptop, which is designed for technicians who work in the field. Matthew Gerber, senior vice president for product line management at Itronix, says the unit comes with Wi-Fi, Bluetooth, cellular and Global Positioning System capabilities. It also includes smart-card access and a removable hard drive. In addition, the VR-1 meets military specifications for temperature, vibration and humidity. The Windows XP-based laptop starts at $3,329.



Itronix's VR-1

Corporate IT is slow to deploy . . .

. . . applications that use the Real Simple Syndication (RSS) protocol. That's because it lacks security, claims Andrew Nash, chief technology officer at Reactivity Inc. in Belmont, Calif. According to Nash, IT managers see RSS as an ideal way to communicate sensitive information to customers, supply chain partners and others, but they worry because the protocol is open to tampering. So his company has added secure RSS communications to Version 4.2 of the software that comes with its Reactivity XML Gateway 4.2 appliance. The enhancement authenticates requester information, encrypts RSS feeds and provides an audit trail of transactions. **ID 58548**

Give your people the systems to be more productive, and they will.

(It may sound crazy, but it's true.)

ThinkCentre A5	ThinkPad T43 with Fingerprint R ad r	IBM [illegible]
599	1449	
-30	-200	
569	1249	3015

CDW

BRIEFS

BMC CFO Resigns After 17 Months

George Harrington has resigned as chief financial officer at BMC Software Inc. He was replaced on an interim basis by Stephen Solcher, who has been the company's treasurer since 1992. BMC said Harrington's resignation wasn't tied to any financial irregularities. Harrington joined BMC 17 months ago from IBM.

StorageTek, Deloitte Enter Partnership

Deloitte Consulting LLP and Storage Technology Corp., which is now owned by Sun Microsystems Inc., have agreed to jointly provide a service to help companies comply with data storage and archival regulations such as those included in the Sarbanes-Oxley Act and the Health Insurance Portability and Accountability Act. The service ranges in price from $500,000 to $1.5 million-plus.

Microsoft Acquires VoIP Technology

Microsoft Corp. has acquired Teleo Inc., a developer of services and technology that allow users to make and receive voice phone calls on their PCs via the Internet. Microsoft said it plans to incorporate Teleo's VoIP technology into its own software and Web applications to upgrade online services at MSN, including MSN Messenger. A timetable for the integration wasn't disclosed.

Flaws Revealed in Adobe Version Cue

Two new security flaws were revealed in Adobe Systems Inc.'s Version Cue software. They were the second and third flaws discovered in the past two weeks, according to security consulting firm iDefense Inc. Both flaws allow local attackers to gain access to machines through the file version manager in Adobe Creative Suite. Adobe said the flaw affects only early versions of the software.

New Group Plans Security Metrics

Organization is the latest to take stab at creating standard

BY JAIKUMAR VIJAYAN

THE NEED for tools to help IT managers assess the effectiveness of their security investments has fueled another industry effort to develop performance measurement metrics.

The latest group to take a stab at creating such metrics is a new entity called the Security Compliance Council. The council last week announced plans to create standard measures to assess and benchmark information security performance.

IT managers said such tools can be effective, but they listed several challenges facing the new organization.

Robert Garigue, chief information security officer at the Bank of Montreal in Toronto, said the effort's chances for success will depend largely on how it builds on existing security frameworks and processes.

The bank, for example, bases a lot of its security processes on frameworks such as Carnegie Mellon University's Capability Maturity Model and the best practices contained in the Information Technology Infrastructure Library, he said.

"Over a period of time, there have been a series of processes that everyone agrees are good, such as patch management, antivirus and intrusion-detection systems," Garigue said. "What is not available is a way to integrate them into a governance framework that says, 'Here's a list of the processes that need to be implemented, and here's how well you're doing with them.' "

To be successful, the new effort must be "additive and not just a substitute" to the metrics already available, he added.

The founding members of the organization are Houston-based security vendor BindView Corp., the Computer Security Institute in San Francisco and The Institute of Internal Auditors (IIA), a 100,000-member association in Altamonte Springs, Fla.

The group's mission is to develop research- and survey-based IT security guidelines to help companies figure out what they need to do and how they are faring, said David Richards, president of the IIA.

Kim Milford, information security manager at the University of Rochester in New York said she welcomes the effort but added that its success will depend largely on the quality of the information used by the group.

For instance, she pointed out, people are reluctant to share detailed security information, and there are wide variations in the way companies implement and manage security technologies and measure incidents. Thus it can be hard to draw consistent data from different organizations, she said.

In addition, adopting someone else's definition of best practices may not always be the right solution for a company, said Christofer Hoff, director of enterprise security services at Western Corporate Federal Credit Union in San Dimas, Calif.

"It may be a cynic's view, but my reality shows that if you do what is right for your company, which does not necessarily mean adopting someone's definition of best practices, then regulatory compliance may be a natural byproduct," he said.

The latest effort highlights a longstanding challenge in the security industry and one that several others have tried to address before, said Pete Lindstrom, an analyst at Spire Security LLC in Malvern, Pa.

"Security ultimately is a black-hole exercise where you are successful if nothing happens," he said. "The question then is whether that was because we allocated the right set of resources to the problem or because there was no risk at all in the first place." **56591**

More Tools

A sampling of tools for measuring information security performance:

- The Standard of Good Practice for Information Security from The Information Security Forum U.K. is designed to help assess performance, check compliance with industry standards and create awareness.
- The Security Metrics Guide for Information Technology Systems from the National Institute of Standards and Technology provides metrics that let government agencies and the private sector identify whether security controls are adequate.
- The OWASP Metrics and Measurement Project by the Open Web Application Security Project creates metrics for measuring Web application security.

Zotob Case May Lead to Credit Card Theft Arrests

BY JAIKUMAR VIJAYAN

An expanding investigation into the recent Zotob worm outbreak is producing more evidence of a growing nexus between worm writers and gangs looking to profit from cybercrime.

The FBI last week confirmed that Turkish law enforcement officials are investigating 16 suspects in connection with an alleged credit card theft ring that's possibly linked to the Zotob worm and its variants.

The disclosure follows the Aug. 25 arrests of Farid Essebar, an 18-year old Moroccan who is believed to be responsible for writing the Zotob and Mytob worms, and Atilla Ekici, a 21-year old Turkish man who apparently financed the effort.

Potential Link

According to an FBI spokesman, the 16 individuals under investigation are not believed to have direct links to the creation and dissemination of the worms that hit several large organizations two weeks ago. Rather, he said, it's likely that the group is engaged in criminal activity that is potentially linked to the worms in some fashion, he said. The spokesman didn't provide further details.

The news is further evidence of a growing alliance between hackers and those seeking to profit from cybercrime, said Graham Cluley, a senior technology consultant at antivirus firm Sophos PLC. This case serves as solid evidence of that trend, he said.

"What you are likely to see over the next few days is the unraveling of an entire identity-fraud gang," Cluley said.

According to Cluley, Sophos researchers have discovered that at least 20 other worms and viruses, including multiple versions of Zotob and Mytob and a version of last year's prolific Mydoom worm, were created by Essebar. All the worms and viruses include the Diab10 handle that was used as a code name by Essebar, he said.

The Mytob variants created by Diab10 communicated with a server apparently owned by a group called the 0x90-team, whose Web site discussed hacker exploits and credit card fraud, another indication of the link between worms and cybercrime, said Ken Dunham, a senior engineer at VeriSign iDefense Intelligence in Reston, Va.

The site is registered to an individual in Paris and runs several online forums on how to make money by selling, buying and trading stolen information, he said. **56589**

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SDLT 600 Results :

Taste :	☐	Speed :	☑	Manageability :	☑
High Capacity :	☑	WORM :	☑	Compatibility :	☑

TESTED BETTER

InfoWorld

In a blind taste test, the SDLT 600 was found to be less than appetizing. Test subjects' comments included, "If there is a hell, this is the food." Scientists have agreed to conduct the next round with condiments. As for data backup abilities, it passed with ease. The SDLT 600 has more capacity and more speed than LTO-2 and AIT-3. It also includes DLTSage™ diagnostic management software and DLTice™ archival WORM functionality. How do we know? It's been tested. For more info and to see the whitepaper, visit DLTtape.com.

DLT

GLOBAL

An International IT News Digest

India Seeks Stiffer Data-Theft Penalties

BANGALORE, INDIA

A COMMITTEE set up by India's Ministry of Communications and Information Technology last week recommended that the government adopt tighter provisions and stiffer penalties for data theft. The committee was formed by ministry officials in January to suggest amendments to the country's Information Technology Act.

The ministry posted the recommendations on its Web site and is seeking comments and suggestions on the proposals through Sept. 19. The committee is calling for data theft to be listed as an offense under the 5-year-old IT Act, which currently requires punishment only for illegal hacking activities. The panel is also recommending the addition of penalties for companies that have been negligent in "implementing and maintaining reasonable security practices and procedures."

Business process outsourcing and call center companies in India that handle large volumes of sensitive data from the U.S. and Europe have been putting pressure on the Indian government to pass data-protection laws for the past two years.

■ JOHN RIBEIRO, IDG NEWS SERVICE

GLOBAL FACT

EDS Australia Workers Reject Deal, Get Raises

SYDNEY, AUSTRALIA

AUSTRALIAN EMPLOYEES of outsourcing vendor Electronic Data Systems Corp. firmly rejected the company's latest salary offer, voting down a proposed deal that would have frozen wage levels but improved some worker entitlements.

After the vote, EDS Australia immediately implemented a wage increase of 3% to 5% and substantially improved its parental leave offerings.

The company also said it has contracted with a consulting firm to conduct a review of payment levels for standby and overtime work.

EDS said the so-called People Agreement was defeated by a vote of 1,573 to 1,064. The rejection puts the outsourcer in an awkward position with workers, who are known to be largely unhappy about its current pay rates.

"We are disappointed with the results because we believed we had offered substantial improvements to the People Agreement," said Chris Mitchell, EDS Australia's managing director. "We understand that our employees have sent us a very clear message, and we are responding."

■ JULIAN BAJKOWSKI, COMPUTERWORLD TODAY (AUSTRALIA)

Nokia Opens Sixth R&D Center in China

NOKIA CORP. last week opened a research and development center in the southwestern Chinese city of Chengdu to build applications based on third-generation mobile technology. The facility is the company's sixth R&D center in China and the second to focus on 3G projects.

Espoo, Finland-based Nokia said it expects the new center to help boost its sales in China, although the company also noted that it will develop mobile applications there for markets around the world.

According to Nokia, 3G services currently aren't available in China. The Chinese government hasn't set a date for issuing 3G licenses, but observers generally expect them to be issued within the next year or so. **50537**

■ SUMNER LEMON, IDG NEWS SERVICE

Compiled by Mike Bucken.

Briefly Noted

Tele2 AB, a pan-European telecommunications service provider based in Stockholm, has started shifting all billing operations for its 30 million customers to a facility in the Latvian capital of Riga. It is also moving some related IT support functions there from its Unit2 outsourcing subsidiary.

■ JURIS KAZA, IDG NEWS SERVICE

Singapore Telecommunications Ltd. said Lucas Chow, its executive vice president of corporate business, will leave SingTel by year's end to take over as CEO of Media Corp., a Singapore-based publisher and broadcaster.

■ SUMNER LEMON, IDG NEWS SERVICE

Infineon Technologies AG, a Munich-based maker of semiconductors, has been awarded a contract to supply components for Microsoft Corp.'s new Xbox 360 video game console. Infineon said that it will supply an advanced security chip, a removable solid-state memory unit and a single-chip ASIC wireless pad controller.

■ JOHN BLAU, IDG NEWS SERVICE

Vendor Group Looks for Single Voice on Security

BY JAIKUMAR VIJAYAN

TechNet, a political advocacy group made up of senior executives from numerous IT vendors, established the CEO Cyber Security Task Force two years ago to promote corporate awareness of information security issues and influence government policymaking.

In July, TechNet named **Chris Zannetos**, *CEO of Framingham, Mass.-based Courion Corp., as a co-chairman of the task force. Zannetos spoke with* Computerworld *last month about his plans to seek broader support for the group's efforts.*

Q&A

What are your immediate priorities for the cybersecurity task force? One is to take the security evaluation for CEOs that we have developed and work across industry to modify it, integrate it and combine it with others so that we can have a more consistent and a more coordinated voice. The second area is around the Common Criteria [security certification for selling IT products to the government]. We believe that there is a lot of confusion about the Common Criteria and that there may be some unintended consequences of the Common Criteria as they currently exist.

Where are you hoping to get broader support for your efforts? We would certainly look at vertical organizations. Security, for instance, is a very important topic in health care; certainly privacy is.

TechNet is a vendor organization. Will that hamper your ability to work with other groups that may see you as being biased? The good news is we have very broad involvement across vendors on the Cyber Security Task Force. What that leads our customers to believe, maybe, is that some of that vendor bias will be washed out because there's not one vendor who's driving this, or two or three. But we are in fact sensitive [to the issue], which is why we've been reaching out to other organizations, including those that aren't vendor-based. We've had very preliminary discussions with a number of customer-only organizations to combine our efforts, or at least coordinate our efforts.

What exactly are some of the problems with the Common Criteria? It takes an organization roughly six to 12 months to be certified at a cost between a quarter-million dollars and a half-million dollars. For many companies, [that] is not a big deal. But a great deal of the innovation is coming from smaller organizations, and a quarter-million to a half-million is a very expensive cost for them.

So the question then arises, Will these small companies go through certification and have a higher cost structure, and will they survive if they do? And if they don't go through certification, will the U.S. government get the most innovative information security technologies?

Are you concerned about more government mandates in the wake of recent security breaches? There are many, many efforts within Congress to try and address a variety of different things, whether it's potentially creating an IT version of Sarbanes-Oxley or whether it's [requiring] database encryption. But their expertise is in governing and creating effective laws and not in information security, which is why we think it's vital to have a vibrant cybersecurity task force within TechNet. **58454**

CIOs RELY ON THEM

CFOs INSIST ON THEM

If there's one thing CIOs and CFOs can agree on, it's Fujitsu PRIMERGY® servers.

Featuring the proven reliability of Intel® Xeon™ processors, PRIMERGY blade, rack and tower servers give CIOs the power to drive complex, business-critical enterprise applications based on Linux and Windows® operating systems. PRIMERGY servers also provide a low total cost of ownership (TCO), delivering the reliability, serviceability, and manageability CFOs demand. To help maintain high performance and low TCO, Fujitsu features Cool-Safe™ cooling technology. Developed with aviation simulation techniques, this innovative, new approach to thermal management optimizes processor airflow to keep PRIMERGY servers running at peak performance in real-world IT environments.

PRIMERGY RX600
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PRIMERGY BX600
Blade Server

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Tower Server

For more information on the complete line of PRIMERGY servers and how Fujitsu PRIMERGY servers can bring CIOs and CFOs together, visit us.fujitsu.com/computers/PRIMERGY or call 1-800-831-3183.

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King County Ready To Restart ERP Effort

Hopes to learn from earlier failed tempt

BY MARC L. SONGINI

AFTER SPENDING $39 million on an ERP system that failed to meet management's goals for the project, King County in Washington would like to have another crack at succeeding.

Officials blamed a lack of management oversight for the failure of the ERP system, which included PeopleSoft human resources software and SAP AG's R/3 financial application. That implementation was frozen in 2000, three years after it started.

The new Accountable Business Transformation Program (ABT) calls for rolling out current versions of Oracle Corp.'s financials and PeopleSoft human resources software to about 15,000 county employees by 2009. The project is still before the King County Council's Budget and Fiscal Management Committee, which postponed discussion of the new plan last week.

The new system aims to enable departments to employ best practices for financial, budget and human resources processes, county officials said.

The ABT team, made up of in-house staff and independent consultants working under County Executive Ron Sims, needs $2.4 million in funding for preplanning work, including a business design and cost analysis. That outlay requires a vote from the county council.

An independent consultant hired by the county, Dye Management Group Inc., estimates that the cost of implementing ABT will run about $47.5 million. That figure will be reexamined next year.

"Our proposal is to implement in 2007 and finish in 2009, and if possible, we'd like to stay on schedule," said Caroline Whalen, deputy county administrative officer. "We're currently delayed, and we don't have the funding to complete the next phase of work."

The ERP saga in Seattle-based King County is a long one. Deadlines slipped in the initial rollout, and by the time the project was halted, the PeopleSoft application was installed for 5,000 workers but R/3 hadn't been installed on any systems. The county had spent $39 million by that point, officials said.

Expertise Required

A key problem holding up approval of the new system, at least for council member David Irons, is the lack of what he called a tech-savvy person to oversee the implementation.

"I've told [the ABT team] to not come back until they have a manager with the technical background to implement the system," he said. "I don't believe in giving them a blank check. We spent $40 million and ended up with virtually nothing out of it."

Irons said he believes the upgrade is mission-critical and probably should have been done 10 years ago to get more-detailed financial information to county officials.

"But at the same time, we have to bring some accountability to the [implementation] process," Irons said.

Whalen said the county plans to hire an ABT project manager by the middle of the month. Once that manager is in place and addresses any council concerns, Whalen hopes that ABT can get the necessary funding and proceed.

Irons said that he is also worried that the length of the rollout will leave the county with outdated software. The proposed system also requires an interface between Oracle and PeopleSoft.

"My background tells me to minimize the points of failure," he said. "We're adding critical points of failure."

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For its part, SAP is calling on the county to take another look at its solution. "We'd encourage the county to consider all their options," said an SAP spokesman. "The initial SAP project never got out of the gate." **56582**

The Downfall of an ERP System

THE KING COUNTY Council is approaching its latest ERP project cautiously with good reason.

"We got terribly burned once before, and we found there's a need to take extra time on this new expenditure," said Larry Phillips, chairman of the council.

The original ERP rollout that began in 1997 involved installing PeopleSoft and SAP software and it never fully delivered the expected results.

A key issue, said Phillips, was a lack of personnel experienced in implementing ERP systems. "They hired great people, they were good managers in other fields, but they had never operated in this one, and it can be complex," he said.

The new ABT system will show more conformity and less customization, which will help keep costs down, Phillips said.

A county-commissioned report on the first project, issued in June 2001 by Dye Management Group and IBM Global Services, noted a number of organizational barriers to success. Those included the lack of "a well-conceived, structured, comprehensive business change-management process reinforced by a visible and active senior-level commitment" and "independent outside oversight on the executive side."

– Marc L. Songini

IBM to Add Software for Managing SOAs

BY MATT HAMBLEN

IBM this month plans to announce software for managing service-oriented architectures, making it the latest in a line of vendors offering tools for automating the process of monitoring SOAs and the applications that run on them.

The software, called IBM Tivoli Composite Application Management (ITCAM) for SOA 6.0, will monitor application performance and give network managers views of application servers and the other SOA infrastructure components, according to documents IBM presented at the Share user group conference in Boston two weeks ago.

SOA management software has been available from startups for more than two years, but it's now becoming a priority for large vendors of management tools and application server software. Hewlett-Packard Co. and BEA Systems Inc. both announced products in June, and vendors such as BMC Software Inc., Computer Associates International Inc. and Oracle Corp. also compete in the SOA tools market.

NEW SOFTWARE

ITCAM for SOA 6.0

- Supports SOAs based on technologies from Microsoft and BEA Systems in addition to ones built around IBM's products.
- Alerts IT staffers to problems with Web services and provides them with information about the problems through the Tivoli Enterprise Portal.
- Offers views of SOA topologies and statistics about the Web services being monitored to aid in life-cycle management.

Erik Sargent, a Web applications architect at Providence Health System in Tigard, Ore., said he's happy with the Web services management tools from Infravio Inc. that he has used for the past three years. The Infravio tools work with components of BMC's Patrol management suite. But Sargent said he still needs more from his management tools.

"I'd ultimately like to see a visualization and management tool for Web services that understands where they are running and how well they are running, and their interactions," he said. "As an application developer, I want to make sure the apps are running and, if not, that the server and network guys can respond."

Shawn Willett, an analyst at Current Analysis Inc. in Sterling, Va., hasn't received a formal briefing from IBM on ITCAM but has reviewed the Share presentation. Willett said IBM appears to be covering its bases so it can compete against its top software rivals for SOA-related business. IBM's offering "looks like it is heavily weighted toward management, monitoring and enforcing of policies rather than setting up any kind of infrastructure for SOAs," he noted.

ITCAM will support SOAs based on IBM's own WebSphere software or BEA's rival WebLogic application server, plus SOAs developed using Microsoft Corp.'s .Net technology, according to IBM. It declined to disclose pricing or a shipment date. **56583**

King County Ready To Restart ERP Effort

Hopes to learn from earlier failed tempt

BY MARC L. SONGINI

AFTER SPENDING $39 million on an ERP system that failed to meet management's goals for the project, King County in Washington would like to have another crack at succeeding.

Officials blamed a lack of management oversight for the failure of the ERP system, which included PeopleSoft human resources software and SAP AG's R/3 financial application. That implementation was frozen in 2000, three years after it started.

The new Accountable Business Transformation Program (ABT) calls for rolling out current versions of Oracle Corp.'s financials and PeopleSoft human resources software to about 15,000 county employees by 2009. The project is still before the King County Council's Budget and Fiscal Management Committee, which postponed discussion of the new plan last week.

The new system aims to enable departments to employ best practices for financial, budget and human resources processes, county officials said.

The ABT team, made up of in-house staff and independent consultants working under County Executive Roo Sims, needs $2.4 million in funding for preplanning work, including a business design and cost analysis. That outlay requires a vote from the county council.

An independent consultant hired by the county, Dye Management Group Inc., estimates that the cost of implementing ABT will run about $47.5 million. That figure will be reexamined next year.

"Our proposal is to implement in 2007 and finish in 2009, and if possible, we'd like to stay on schedule," said Caroline Whalen, deputy county administrative officer. "We're currently delayed, and we don't have the funding to complete the next phase of work."

The ERP saga in Seattle-based King County is a long one. Deadlines slipped in the initial rollout, and by the time the project was halted, the PeopleSoft applicatioo was installed for 5,000 workers but R/3 hadn't been installed on any systems. The county had spent $39 million by that point, officials said.

Expertise Required

A key problem holding up approval of the new system, at least for council member David Irons, is the lack of what he called a tech-savvy person to oversee the implementation.

"I've told [the ABT team] to not come back until they have a manager with the technical background to implemeot the system," he said. "I don't believe in giving them a blank check. We apent $40 million and ended up with virtually nothing out of it."

Irons said he believes the upgrade is mission-critical and probably should have been done 10 years ago to get more-detailed financial information to county officials.

"But at the same time, we have to bring some accountability to the [implementation] process," Irons said.

Whalen said the county plans to hire an ABT project manager by the middle of the month. Once that manager is in place and addresses any council concerns, Whalen hopes that ABT can get the necessary funding and proceed.

Irons said that he is also worried that the length of the rollout will leave the county with outdated software. The proposed system also requires an interface between Oracle and PeopleSoft.

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NSF Proposes Ambitious Internet Project

BY GRANT GROSS
WASHINGTON

The Natinnal Science Foundation (NSF) has proposed a plan for creating a next-generation Internet with built-in security and functinnality that connects all kinds of devices.

The agency's Glnbal Environment for Networking Investigations (GENI) initiative would include a research grant program and an experimental facility tn test new Internet technologies. The project isn't yet funded, said Richard Vines, an NSF spokesman. "It's an idea under consideration," he said.

Researchers need to explore radical new ideas for addressing continuing challenges such as Internet security and ease of use, said David Clark, a seninr research scientist at MIT's Computer Science and Artificial Intelligence Laboratory.

"I'm not at all picking on the Internet — the Internet does what it does well," said Clark, who received a grant to advise the NSF on the GENI project. "But there aré some things where you say, 'That doesn't work right.' "

NSF nfficials announced the GENI project last month at a conference for the Special Interest Group on Data Communications in Philadelphia.

Beyond Gradual Change

Clark said the GENI project aims to go beyond current efforts to incrementally improve the Internet. For example, the U.S. Department of Defense has been pushing for adoption of Internet Protocol Version 6 to replace the widely used IPv4. The GENI project would go years beyond that, said Clark, who was chief protocol architect for the government's Internet development efforts during the 1980s.

Clark hopes that the GENI project will envision Internet needs that are 15 years away or more. "I'm worried about the framing of the question so that we don't think so incrementally," he said.

Vines last week called the proposal "very, very preliminary. As I understand it, this could be years in the making."

The NSF's Directorate for Computer and Information Science and Engineering is encouraging the involvement of other government agencies, private companies and other nations, according to a GENI page on the NSF Web site.

The goals of the GENI initiative include new core Internet functionality, such as naming, addressing and identity architectures; enhanced security and high availability; and new Internet services and applications. 50543

Gross is a reporter for the IDG News Service.

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DON TENNANT

Has HP Forgotten?

I COULDN'T have been the only one who was stunned last Monday when Hewlett-Packard said it didn't yet know whether its HP Technology Forum, slated to be held in New Orleans two weeks later, would need to be postponed. That decision, HP said, would be made by the end of the week.

It was kind of surreal to read that on the conference Web site while toggling to various news sites to read about and view the devastation of New Orleans. "Are they kidding?" I asked myself. "The place is a wreck! There's absolutely no way they can go ahead with the conference. Why can't they see that?"

A bit of light was shed on the matter when someone forwarded me an e-mail that the HP Technology Forum team sent to registered attendees last Monday afternoon. The e-mail stated that HP was monitoring the situation closely and that a decision on the "direction" of the conference would be made on or before Sept. 2. Then came the kicker: "Please be cognizant that the media coverage of an event of this magnitude can be sensationalized for effect. While some areas have withstood damage, others may have not."

Now, I have no problem with a healthy skepticism of media reports. We in the media have goofed up frequently enough to have brought that on ourselves. But I do have a problem with HP sending out a sweeping accusatory message under these circumstances. I have no idea how a journalist would even begin to go about sensationalizing this story. Nobody has been making this stuff up. We've seen the devastation with our own eyes, and we've heard vivid firsthand accounts of the enormity of the hurricane's impact. Why trivialize all that with a suggestion of media sensationalism?

When I asked HP why it felt it necessary to convey an accusatory message like that, Don Gentile, an HP PR director, e-mailed me an explanation.

He said the message I have quoted above "was generated quickly by the HP Americas events team just as the hurricane's initial impact on the Gulf Coast was being covered. They subsequently explained to us (in PR) that at that time they didn't want attendees to hastily cancel their plans based solely on media images — we all remained 'cautiously optimistic' that New Orleans had been spared the worst of it. Other areas were showing signs of severe damage and it would be understandably easy to confuse locations. When the levee situation degraded within the city, they immediately changed the message on the Web site and of course they sent out a second e-mail message postponing the event shortly thereafter."

OK, but I still question the indecisiveness — there simply was no need to leave hundreds of users in limbo, even for a day. And it's irresponsible to couch the indecision in distrust of the media. I can't think of any other vendor that would have taken that tack. But then again, I can't think of any other vendor that has such an awkward relationship with its users.

As we approach the four-year anniversary of the Sept. 11 terrorist attacks, I can't help but flash back to the events of that horrendous day. No one accused the media of sensationalizing that story. Perhaps that's because there was no paralysis to explain. Tough decisions — yes, even decisions as relatively inconsequential as canceling IT conferences — were made boldly, promptly and with no excuses.

Consider that one more very good reason to never forget that day.

56650

Don Tennant

THORNTON A. MAY

Giving IT Messages the Smell Test

THE QUALITY of communication is in decline, and nowhere is this more evident than in IT. With this as a premise, researchers at the IT Leadership Academy created a five-part framework to help you analyze the "stories" of IT.

Content. What is the IT story in your organization? Is it full of fresh ideas? Is there a story at all? Pentagon planners have interpreted the lack of importance that science, technology and computing have for many Americans as a potential threat to national security. So they have commissioned the American Film Institute to convene a group of midcareer researchers, engineers, chemists and physicists and ground them in the art of storytelling — story arcs, plot points, pitching, getting buy-in — so that they can bring the point home to more U.S. citizens. Similarly, the future of technology is linked to the presence of great technology stories and storytellers.

Clarity. Read a vendor brochure, take a sales call or read a bit of technical documentation, and you will see that clarity is an issue. Jargon usage among IT vendors and analysts exceeds that of any other discipline. Shipments of imported shrimp undergo "organoleptic analysis" — that means it's smelled to make sure it's fresh. You should "smell" the messages emanating from your IT shop to make sure they don't stink.

Consumability/showmanship. The big issue facing IT practitioners is the need to frame their messages and know their audiences. (For vendors, the big issues are clarity and correctness.) It's rare to find an IT organization with the right narrative, an effective story line or powerful metaphors.

Zookeepers in need of funding to take care of their animals know that they need to put on a show. Thus, most U.S. zoos put papier-mâché "prey"

stuffed with meat in predators' cages. Carnivores attack the fake prey, rip them apart and feast on the food within. It entertains the zoo visitors.

We need to make infrastructure and security interesting. The tools of storytelling include captivating an audience via perspective. People are curious to see familiar places from a dramatic perspective. When we succeed at doing that, the story will be retold. We need to understand the processes by which ideas spread.

Control/spin. NASCAR is frustrated that it doesn't get the kind of general news coverage it feels it deserves. NASCAR is the second-highest-rated regular-season sport on TV, according to Nielsen Media Research. But you wouldn't know that by watching the Sunday-night sports highlights or reading the morning paper. In the absence of someone else telling your story, you need to take charge. NASCAR is creating a division to generate news for newspapers, radio, TV stations and cable networks to mix into their content.

You need to take charge of the message — its creation and its placement. This is what the German government recently did. It hired a public relations firm to put out a book crediting many of the world's greatest inventions to Germans. The book, *German Stars: 50 Innovations Everyone Should Know About*, is an example of managing a message.

Correctness/believability/accuracy. When assembling your message, be careful of being too Madison Avenue. Your message has to be believable, accurate and correct. At a storytelling workshop, one of the seasoned and successful storytellers suggested, "Tell your story for you. Then go back and rewrite it for the audience you wish to influence."

Among the skills future technologists will have to master, storytelling ranks near the top. Contemporary IT leaders need to understand the storytelling processes at work in their world. **56468**

JOHN D. HALAMKA

My Wired World

I'M OFTEN asked how I maintain several jobs — CIO at Harvard Medical School, CIO at Beth Israel Deaconess Medical Center, CEO of MA-Share, emergency physician and father. The answer is simple: highly efficient use of technology. Here's a typical day:

At 5 a.m., I open my eyes and glance at my BlackBerry 7290 GSM/GPRS/Bluetooth phone/e-mail device and read through the 50 e-mails I have received since 2 a.m. Overnight, there are generally a few major server upgrades, security patches and network enhancements.

By 6 a.m., I'm out the door, heading for my 2005 Prius. It has no ignition key but senses the approach of my Bluetooth signal and unlocks the door as I touch the handle. I sit down and press the power button. The car starts and announces that it has successfully connected to my BlackBerry so that all calls can be handled via the Prius audio system.

I have meetings in five locations, so I type the addresses into the Prius, and it calculates the optimal path. I want to stop for tea, so I ask the Prius' voice-recognition system to identify all coffeehouses along the route.

My first phone call is picked up by the Prius, which automatically mutes the CD I'm playing and pipes the call over the audio system. A child has ingested a mushroom, and the emergency department is requesting a consultation. I recommend that they take a picture with a cellular phone and send it to my BlackBerry.

A few minutes later, I arrive at the site of my first meeting and place a Jabra 250 Bluetooth headset on my ear. While walking, the picture of the mushroom arrives, and I recognize it as a harmless Marasmius. I click on my BlackBerry and finish the consultation via hands-free Bluetooth headset. Then I sit down to my first meeting.

I open my IBM X41 laptop, which automatically recognizes that I am at Beth Israel Deaconess Medical Center and logs me onto the EAP-Fast secured network; it even knows my printer preference for this location.

I run the meeting and take down the minutes on my wireless laptop. As we adjourn, I e-mail the minutes and action items to all of the attendees, then walk to my next meeting, answering 30 e-mails on the way.

I'm meeting a group of reporters to discuss the use of radio frequency identification in health care. In the emergency department, I pass a scanner near my arm. An RFID device, implanted under the skin of my right arm between elbow and shoulder, emits my medical record number and enables a secure Web-based application to display my entire medical history. All 57,000 square feet of the emergency department are wirelessly enabled for data, voice over IP and geolocation via active RFID tracking tags. I clip a PanGo Networks tag to my belt, and a dashboard shows my physical location as I walk through the department, enabling clinicians and patients to rapidly find me.

On to my next meeting, at Harvard Medical School, where my laptop reorients itself. While there, I automatically create a copy of my bio-sketch for a grant, via an automated application that pulls all my publications from the National Library of Medicine.

I have Bluetooth, GSM/GPRS and RFID on my body 24/7. Admittedly, when I travel in remote areas to rock- and ice-climb, I am challenged by lack of signal, so I carry a wide-area text pager as backup. Luckily, I can connect on most summits. This article was composed and sent from the top of Grand Teton, at 13,770 feet. **56481**

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READERS' LETTERS

Another Example of HP's Betrayal of Users

I FEEL I must disagree with Don Tennant's statement, "But no one can argue that it was HP that pulled the rug out from under Interex's members left" ["Never Mind," QuickLink 55704]. I must be "no one."

Let me explain. Interex has been holding its conference in August for as long as I can remember (I have been using an HP 3000 since 1979). Why did HP, which has never held such a conference, pick September for its inaugural conference? I don't believe for a minute that was not a calculated move. If HP did not want to hurt Interex, why not pick a spring date? This, along with HP dropping active support for the conference by lowering its floor space from 7,000 square feet to 900 and reducing its sessions from 400 to 38, certainly took a toll.

It is unfortunate that HP contributed to killing an independent organization that provided an unbiased view of HP for tens of thousands of HP users. It was also unfortunate when Carly Fiorina killed the HP e3000 in order to force its users to switch to the HP-UX format, but that is another story.

James Ouellette
Vice president of IT,
Rocky Hill, Conn.,
JimOuellette@hotmail.com

I OBJECT to the notion that "no one can argue that HP pulled the rug out from under Interex's members."

I am a former customer of Hewlett-Packard, and I believe that HP has declared war on its customer base. I was at the HP World 2001 conference when Winston Prather stood up in front of a room full of HP e3000 users and stated that the 3000 was an integral part of HP's plan and vision for the future. Less than three months later, HP announced that the platform would be discontinued. One could argue that this was unfortunate timing, but in January of 2002, Alvina Nishimoto of HP let slip that the decision to kill the 3000 had already been made at the time of HP World, but it was decided by HP's management that the conference wouldn't be the proper place to announce the death of the platform that made HP a player in the computer world.

This was the first time in my 25 years of association with HP that someone from the company had ever lied to me. After that 2001 conference, the Fiorina-led HP completely obliterated its impeccable reputation and became a purveyor of commodity equipment with high prices and no redeeming value.

I have completely divested myself of every piece of HP equipment that I owned, and I refuse to buy anything with either a Compaq or HP label. The upshot of all of this is that HP is no longer a company you can trust. This latest back-stabbing action by HP against its users is just the latest in a series of moves calculated to reposition HP from a leadership position in high-value systems to a purveyor of "me too" PC clones. Why anyone would place any confidence in this company going forward is a complete mystery to me.

Richard J. Bober Jr.
Willington, Conn.

COMPUTERWORLD welcomes comments from its readers. Letters will be edited for brevity and clarity. They should be addressed to Jamie Eckle, letters editor, Computerworld, PO Box 9171, 1 Speen Street, Framingham, Mass. 01701. Fax: (508) 879-4843. E-mail: letters@computerworld.com. Include an address and phone number for immediate verification.

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Toshihiko Suda
Senior Manager, *Nissan Motor Company, Ltd*

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IT Gives Airlines a Lift
IT projects in the areas of customer service and maintenance automation have paid dividends for cash-strapped airlines. **Page 26**

FUTURE WATCH
Molecular Self-Assembly
Nanoscale circuits have the ability to build themselves, promising to keep Moore's Law alive for many years. **Page 28**

SECURITY MANAGER'S JOURNAL
Starting Over, With Intrusion Detection
Mathias Thurman finds lots to keep him busy at his new job, but budget considerations put intrusion detection at the top of the list. **Page 30**

UPGRADES Downtime

Here's how IT professionals say they've pulled off major network upgrades without disrupting users.

By Drew Robb

UPGRADING a network is never easy, especially when the work must be completed without interrupting service. Hal McGregor, network manager at Beth Israel Deaconess Medical Center faced that challenge after the Boston-based hospital's network failed.

"We experienced a major network outage in 2002 involving Layer 2 switched topology that depended heavily on spanning tree for redundancy," he says. The problem was that the network hardware was at the end of its life, having been kept in service too long because of capital spending constraints.

McGregor's team manages the network for Beth Israel Deaconess and other area hospitals, clinics and offices — that's 17,500 active ports on over 300 routers and switches linking users at 125 locations. And the task of upgrading the system needed to be done without downtime.

"Because of our need for uptime for patient care, we did it with minimal disruption — the network upgrade was like changing the wings on a 747 while it's flying," says CIO John Halamka, who's a *Computerworld* columnist.

The hospital did it by first building and testing a parallel network. The project required three months for planning, six months for building the network core and distribution layers and 15 months for installing the access layer.

Taking a measured, orderly approach was key. "Don't rush and shortchange the planning phase," McGregor advises, "and be sure to allow ample project time."

Gigahertz and Gigabits

Successfully upgrading a network requires first defining what you want to get out of the change. The answer may not always be as simple as raising bandwidth another notch.

"Rarely do I run into someone without enough bandwidth," says Michael Herald, a senior consultant at CompuCom Systems Inc., an IT services firm in Dallas.

Users always want more speed, but extra bandwidth doesn't necessarily make a difference. Moving to voice over IP is one example.

"They will get a jittery voice and decide to upgrade the bandwidth, but that doesn't help," Herald says. "The bandwidth may be only 3% utilized, [but] they need better quality of service."

For Jim Kirby, a network architect at Wells Dairy Inc. in Le Mars, Iowa, the defining issue was system reliability. The company, which sells ice cream and yogurt in 28 countries under the Blue Bunny and Weight Watchers brands, among others, had a LAN connecting its warehouses, ice cream plants, offices and data centers around the town, as well as a WAN linking headquarters to plants in two other

Continued on page 24

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Continued from page 21

states. The architecture was inadequate.

"We had a number of end-to-end [virtual] LANs across the campus, but we had outgrown that model," he says. "This resulted in instability, which impacted production with downtime."

Kirby replaced the system with a three-tier, routed and switched architecture that consisted of core, distribution and access layers and was broken into multiple zones. It has a Gigabit Ethernet fiber backbone and 100Mbit/sec. connections to users.

"Because we operate manufacturing 24 hours a day, we took every high-availability option we can get," he says. "If anything goes down, at least we will be able to maintain a connection between the data center and the plants."

Careful Planning

The switch took six months. The new equipment was staged and extensively tested before deployment. Cables were labeled, and the infrastructure group installed the equipment throughout the campus. With everything in place, the networking team spent a weekend plugging in the cables, configuring the ports and changing IP addresses.

"We had planned everything very meticulously," says Kirby. "On Monday morning, there were a couple IP address conflicts we had to resolve, but by and large it was a very smooth start-up."

Cutting costs can also be a motivation for upgrading a network, says Gartner Inc. analyst David Willis. For example, consolidating an ERP application onto a centralized server can cut support costs, but it requires a reliable connection to any branch office that used to host the application locally.

Willis also stresses the savings that come from simplifying administration and the benefits of hardware convergence that reduces the number of devices you need to support.

"Boxes now tend to be multifunctional," he says. "There is a huge difference in processing power and capabilities between the Cisco 2500 branch-office router and the 2800 unit, which includes an integrated firewall, better security and VPN termination."

Willis says that although bandwidth needs are growing fast, most organizations have more than enough. He says companies are upgrading with Gigabit Ethernet because it isn't much more expensive than 100Mbit Ethernet.

But for WAN connections, which require paying a carrier for the additional bandwidth, he recommends exploring ways to cut down on the traffic load.

"There is a whole class of equipment we call WAN optimization controllers that reduces bandwidth consumption and boosts performance," says Willis. "By applying quality of service, traffic management, compression and caching, you can reduce the need to buy additional capacity from the carrier."

Avoiding Disruption

The key to any successful network upgrade is pulling it off without disrupting users. It's not always easy, but it can be done, network professionals say.

"It comes down to three things: planning, communication with users and really understanding the data flows," says Brett Rushton, vice president for strategic services at Calence Inc., a network design and management firm in Tempe, Ariz. The planning starts with finding out what's in place — both physically and logically — and how it's performing. Frequently, existing diagrams are incomplete or inaccurate, if they exist at all.

"Often, you will find departmental servers sitting under someone's desk that you haven't taken into account," says Rushton. "The number of times you find cabling plans with nothing labeled at each end would astound you."

Before going live with the new equipment, you must thoroughly test connectivity as well as any critical applications that will be running over the network — particularly where the upgrade involves changing addressing schemes.

This ties back to the priority of communication — finding out exactly what applications users depend on and coordinating with the different business units along the way to ensure a smooth transition.

Rushton cites a campus network upgrade for a Fortune 100 financial services firm where communication broke down. When the users cut over to the new network, many couldn't access a key credit-approval application.

"The users hadn't told us this was one of the critical applications they were using, so it didn't come through in the testing procedures," recalls Rushton.

Fortunately, Calence was able to locate the bug and re-establish service without having to roll back the changes. But this emphasizes an important point, Rushton says. IT departments should build the network and repeatedly test it before any deployment, but they also shouldn't assume that the tests accurately reflect reality. He recommends doing a phased rollout of the network and applying the lessons learned in the beginning to other user groups later in the process.

Golden Gate University took this approach when switching to an Ethernet service provider for connections among its seven campuses on the West Coast.

After initial testing in San Francisco, the school selected one regional site as a pilot. Subsequent installations at the other campuses were performed during scheduled downtimes in the evening and on weekends.

Golden Gate followed the systems development life-cycle project management model.

"Practically speaking, this means building out at least one copy of any new infrastructure in a development/preproduction laboratory environment, as well as building out the production infrastructure in parallel to the pre-existing resource that is to be replaced," says IT operations manager Karl Ehr. "This maximizes the chances for discovering unforeseen issues as soon as possible and provides a valid back-out plan should the need arise."

Stay Flexible

Correct planning is indispensable and should include a five-year horizon. That means building some flexibility into the network.

Al Hofmann, director of enterprise networks at Hartford Hospital in Connecticut, oversees an 11,000-node network serving a 45-building main campus and nearly 100 remote facilities. He started an upgrade project by creating a long-term plan that defined the architecture and specified the vendors. He then rolled it out over a period of four years.

The design was flexible enough that Hofmann's IT staffers could incorporate newer technologies without violating the overall plan. For example, they started out using Category 5 cables but then switched to Cat 6 and Cat 6e over time.

"As new technology became available, we took advantage of it," explains Hofmann. "We had already established a standard for wiring and labels and patch panels, which made changes and progressive updates much easier as new equipment came in."

The architecture — a fully redundant, three-tier network — also makes it easy to upgrade service without interruption.

"If we are doing a speed change and don't want to interrupt the user, we can move that traffic onto a secondary path while we upgrade the primary," says Hofmann. He stresses the importance of starting out with a coherent plan. But don't get overconfident, be cautious, even if everything tests out perfectly in the lab.

"Even with the best planning in the world, you will still have small issues, and you need to be prepared to respond to those things at the first go-live date," says Rushton. "Monday morning 8 a.m., you need to have the SWAT team in place to address any customer issues on connectivity or perception issues around performance." **56350**

7 TIPS FOR THE PAIN

Verify that the **latency is coming from the network**, not some other part of the system, before adding bandwidth.

Build and test the network in the lab before installing it.

Do a phased rollout when possible, so changes can be easily rolled back if necessary.

Plan for the next five years' requirements, not just what is needed now.

Consider **security, content caching, power over Ethernet and quality of service** as well as increasing bandwidth.

Build a modular network that can be easily reconfigured to meet changing needs.

After that weekend upgrade, be ready Monday morning to **quickly address any bugs or even perform a complete rollback** if necessary.

Robb is a Computerworld contributing writer in Los Angeles. He can be reached at drewrobb@sbcglobal.net.

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IT Gives Airlines a Lift

Automation initiatives in customer service and maintenance operations are increasing efficiency and cutting costs at the major carriers.

By Linda Rosencrance

The U.S. airline industry is in a financial tailspin. Increased security concerns since the terrorist attacks of Sept. 11, 2001, rising fuel costs and depressed fares have all taken their toll. US Airways Group Inc. and United Air Lines Inc. are in bankruptcy. Delta Air Lines Inc. says it may seek bankruptcy protection soon, and Northwest Airlines Corp. lost $225 million in the second quarter of this year.

In response, airlines have launched IT automation initiatives in areas such as customer service, maintenance and marketing. Those efforts are cutting costs and helping carriers operate more efficiently.

Service Efficiencies

For example, at Continental Airlines Inc., a self-service shopping tool for frequent fliers has helped cut costs. "Since 9/11, we try to use technology to lower costs and increase revenue where we can," says Ron Anderson-Lehman, CIO at the Houston-based airline.

Continental's new Reward Calendar tool, which was launched in August 2004, is available to frequent fliers on the airline's Web site. Customers are using pricing and shopping technology from Cambridge, Mass.-based ITA Software Inc. for reward travel, Anderson-Lehman says.

In early 2003, Continental also redesigned its schedule and fare search engine in conjunction with ITA. The company needed to keep its planes full to sustain profits, but it also needed to keep its regular customers happy by making it easy for them to cash in frequent-flier miles for available seats. Continental was looking for a simpler system that would save labor by allowing customers to find

and book those seats themselves.

"The challenges are to find reward availability, because planes are very full these days," Anderson-Lehman says. "We wanted them to be able to do it online, because it's expensive to have a reservation agent do it, and it's also fairly complicated."

Using Reward Calendar, frequent fliers can search for and book reward travel in both economy and first/business-class cabins. Seat availability is displayed over a two-to-four-week period based on the date of the preferred flight, Anderson-Lehman says.

Taking the adage "time is money" to heart, American Airlines Inc. is replacing nearly 35,000 PCs in airports, back offices and at corporate headquarters so employees can use more-efficient applications to serve customers more quickly. Susan Garcia, vice president of IT at the Fort Worth, Texas-based company, says that every IT decision is based partly on lowering costs and improving customer service.

Hewlett-Packard Co. is the hardware vendor on the project, and Electronic Data Systems Corp. is helping the airline with the rollout. "This allows us to do things like streaming video as well as some training," Garcia says. "It also increases the speed at which agents can check people in."

American started what it has dubbed the Quantum Project earlier this year and plans to complete it at all domestic and international locations by the end of the year or early next year, Garcia says.

Customer self-service and other IT initiatives have been a key part of the business plan at United Air Lines. Chicago-based United, which is preparing to emerge from bankruptcy protection, is the world's second-largest airline, operating more than 3,400 flights a day to more than 200 domestic and international destinations.

"Over the past three years, as we restructured, we used IT significantly to reduce costs and improve revenue performance," says United CIO Nirup Krishmarthy. "Today, IT is one of the pillars that holds up the business plan going forward."

During that time, United has installed approximately 1,100 EasyCheck-in self-service kiosks from IBM at domestic airports, he says.

The units allow passengers to perform a variety of transactions, including getting boarding passes, requesting upgrades and even checking in bags at designated kiosks without waiting in line at ticket counters or gates, according to Krishmarthy.

The kiosks use IBM PCs, touch screens, card readers and ATB2 printers. Select kiosks will be using RTE8000 passport scanners from U.K.-based Rochford Thompson Equipment Ltd. They will be driven by IBM's Consumer Device Services software and its common use self-service, or CUSS, system.

United is also working with Deutsche Lufthansa AG on a project called Common Platform that will replace its reservations and airport management environment now hosted by Galileo International Inc., a global distribution system, says Krishmarthy. The ultimate goal of the IT project is to provide a common experience for customers of the airlines that are part of the Star Alliance airline partnership, he says.

Star Alliance members will share common software, databases and a technical platform, allowing them to issue tickets on other Star Alliance members' flights; share information about seat availability, schedules, reservations, inventory and fares; and even share check-in systems and other airport customer-service systems, says Krishmarthy.

No-Fault Flight Tracker Keeps Pinnacle in the Air

Maintenance Gets IT Overhaul

Over the past 12 months, airlines have begun looking into automating their maintenance, repair and overhaul (MRO) systems, says Henry Harteveldt, an analyst at Forrester Research Inc. in Cambridge, Mass.

"They're taking a fresh look at MRO technology — how can it better help them schedule the planes for maintenance, reduce the time on the ground, and increase the accuracy and lower the cost of the maintenance work. That is one area the airlines are collectively looking at," Harteveldt says.

Continental is working on deploying 802.11b or 802.11g wireless networks in its hangars for use by aircraft maintenance staff, Anderson-Lehman says.

Currently, mechanics can access maintenance manuals and documents electronically on PCs, but those PCs are tethered to locations that aren't close by when they're working on the planes, he says.

"Continental wants to be able to move those PCs out into the hands of the mechanics where they're working so they can see the schematics about specific equipment they're working on," says Anderson-Lehman. "We're doing this now in a hangar at the airport in Houston for our heavy maintenance checks on our 757s." This technology will allow mechanics to get airplanes off the ground faster because they'll spend less time moving back and forth between the tethered PCs and the planes. And that's important because every minute a plane is out of service costs money, he says.

Continental has also implemented a multiuser production coordination system designed by Sinex Aviation Technologies Corp. in Duluth, Minn., for use within the heavy maintenance environment. This software allows the airline to plan the maintenance work as well as assess how that work is progressing.

"This will allow us to replace the paper-based process of signing off on the work that gets completed," Anderson-Lehman says. "Widespread use of this system relies on us being able to deploy wireless infrastructure as well, so we're looking at over 18 to 24 months for rollout."

American is also bringing portable technology to its maintenance personnel, Garcia says. The airline has been working with Panasonic Corporation of North America to build a portable, ruggedized laptop to hold all the information the maintenance workers need when working on a plane, whether it's at a gate or in a hangar. The Portable Technology for Line and Base Maintenance system will replace the current paper-based system, Garcia says.

"We used a wireless network initially when we piloted the program, and we built our own infrastructure to get the data back and forth from our main servers," she says. Eventually, as technology improved, the airline was able to use Sprint PCS Group's cellular phone network. "Anywhere you can operate a cell phone, you can connect this computer," Garcia says.

The new system increases productivity. Mechanics no longer have to hike up to half a mile to retrieve the information they need. It also saves money by increasing on-time departures, Garcia says.

Reaching for Revenues

Even low-cost carriers such as Dallas-based Southwest Airlines Co., which has posted a profit every year since 1972, are turning to IT to boost the bottom line. Like other carriers, Southwest is using marketing automation tools to help increase sales. The airline recently developed and launched Ding, a Windows applet that brings live updates of Southwest.com offers directly to customers' desktops, says Tom Nealon, senior vice president and CIO.

Once a user installs the application, the Ding icon will display in the PC's system tray. Southwest can then deliver marketing messages to the application. When a message is delivered, the system will make a "ding" sound, and the user can click on the icon to display the offers.

"It's going gangbusters," Nealon says. "We've had hundreds of thousands of downloads and over $20 million in fares booked through Ding since June."

The airline industry is changing, and the airlines have to change with it, says Garcia. And, she says, if they want to survive, the airlines have to use IT to cut costs, revitalize the business, keep employees happy and improve customer service. 56111

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No-Fault Flight Tracker Keeps Pinnacle in the Air

In the hypercompetitive air-travel market, the major airlines aren't the only ones looking to use IT to become more efficient.

, a second-tier carrier in Memphis, decided a little over a year ago to move from an inefficient and time-consuming paper-based system for aircraft and flight tracking to a computerized one. It now uses as its primary system for scheduling flights and making aircraft assignments.

To keep the application online, Pinnacle installed FliteTrac on an in Maynard, Mass.

"We wanted a fault-tolerant server to somewhat guarantee that our production systems would run through a 20-hour day without hardware problems becoming an issue and taking us down," says Jim Awe, a project manager at Pinnacle.

"We can't run FliteTrac without our system being up and accurate," says John Presnell, Pinnacle's director of IT. "If our system is down, we lose control pretty quickly and we don't know where things are, so we have to start canceling flights. And when you start doing that, you lose money in a hurry. This system is more for cost avoidance than cost savings."

—*Linda Rosencrance*

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Molecular Self-Assembly

Nanoscale circuits build themselves, breathing new life into Moore's Law.

By Steve Ulfelder

FUTURE WATCH

SOMEDAY, COMPUTER CHIPS WILL BE GROWN, NOT MADE.

The concept of nanotechnology — that is, the manufacture of preposterously small objects — is at least familiar to most, although the scales involved continue to boggle the mind (a pinhead is about 1 million nanometers wide). It's easy to see why such extreme miniaturization interests semiconductor makers: Feeding the beast called Moore's Law grows more difficult with every generation of chips.

A number of companies are betting that the best way to operate in this nanoscale world is via "molecular self-assembly," in which circuits literally grow themselves. IBM, Texas Instruments Inc., Fujitsu Ltd. and Hewlett-Packard Co. are focusing on incrementally self-assembled components that can be integrated with conventional silicon-based chips. Meanwhile, startups such as ZettaCore Inc. and Cambrios Technologies Corp. aim to eliminate silicon completely by building entire semiconductors from molecules.

But, experts caution, the race is not a sprint but a marathon whose finish line is 20 years off at least.

Researchers have already shown that it's possible to integrate self-assembly with conventional semiconductor-manufacturing techniques — meaning chips that are at least partially self-assembled may be found in commercially available computers in five to seven years, says Jack Uldrich, president of The NanoVeritas Group in St. Paul, Minn., and co-author of *The Next Big Thing Is Really Small* (Crown Business, 2003).

Natural Patterns

Self-assembly — the tendency of certain structures to fall naturally into patterns — is one of nature's most common occurrences. On a grand scale, for example, wind direction, temperature and moisture in the air result in predictable types of storms.

Now think smaller — much smaller. Certain molecules combine without guidance in predictable ways. "Some molecules recognize each other and find natural low-energy states," says W. Grant McGimpsey, a biology professor and director of the Bioengineering Institute at Worcester Polytechnic Institute in Massachusetts.

A common example — and one that's expected to play a prominent role in chip making — is the SAM, or self-assembling monolayer. When a substrate and molecules with long carbon chains are combined under the right conditions, SAMs self-assemble.

"The neat thing about SAMs is they're very well ordered," McGimpsey says. A field of these SAMs protrudes from the substrate at a well-defined angle — like a small patch of thick, well-tended grass — and can perform several duties, such as improving conductivity or increasing surface area. Such order, McGimpsey says, "means predictability of structure, and thus of properties."

To date, the management of self-assembled molecules that could be applied to semiconductors is limited to a few basic structures. However, researchers believe that's a benefit, not a drawback.

Because of the high cost of tooling up, process change in the semiconductor industry is slow. Thus, self-assembly is sure to make its way into integrated circuits only gradually. Early applications will be simple and unglamorous.

For example, IBM Research has used self-assembly to boost by 400% the performance of the high-capacity decoupling capacitor, an integrated-circuit component that helps maintain a steady, spike-free power supply.

"Self-assembled materials form very simple patterns," explains researcher Chuck Black of IBM Research's Yorktown Heights, N.Y., laboratory, so that structures can be made far smaller than those resulting from lithography, the conventional chip-making technique.

HP has recently spoken with boldness about nanotechnology's role in its future. "We believe we have a practical, comprehensive strategy for moving computing beyond silicon to the world of molecular-scale electronics," Stan Williams, a director at HP Labs, said in a March statement. HP is betting on crossbar arrays — a way to replace traditional transistors with devices created by trapping a switchable layer only a few atoms thick between crossed wires. HP acknowledges that it must answer many questions before manufacturing crossbar circuits, but one possibility is a self-assembly technique in which silicon nanowires would be "grown" between a pair of electrodes.

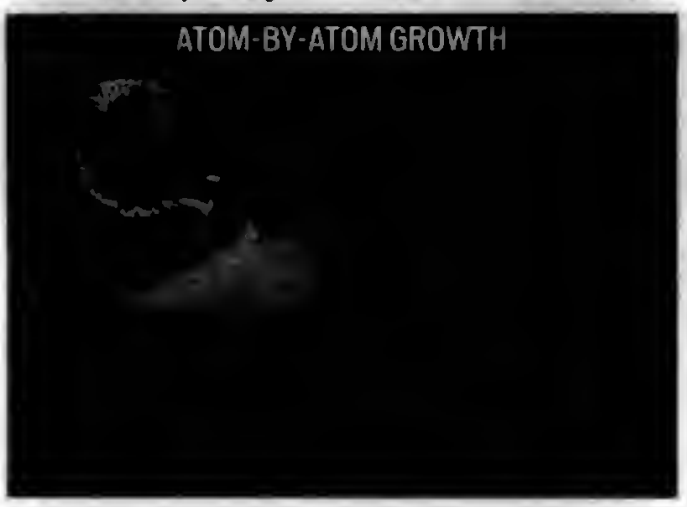
The concept of a mass-produced structure with dimensions measured in atoms helps explain why researchers are turning to nanotechnology as the next great hope for Moore's Law — the observation, credited to Intel Corp. founder Gordon Moore, that the density of transistors on a chip doubles every 18 to 24 months.

Today's most advanced transistors feature gate lengths of 90nm; Intel says it will roll out 45nm transistors in 2007. That's less than 1/5000 the width of a pinhead — and yet it's an absolute chasm compared with a molecule, which is about 1nm in width.

As a result, McGimpsey points out, the potential to shrink chips is vast: "Replace all the gates on [today's semiconductors] with atoms, and you get a ten-thousandfold decrease in size and thus increase in speed."

One sign that limited applications of self-assembly are likely years rather than decades away from production is the effort that's been made to integrate the technique with conventional lithography. For example, the recent IBM breakthrough that most excites Black is a process improvement making it possible to "register," or align, self-assembled structures with those created through lithography. Conventional chips feature about 30 lithographed layers, and aligning them precisely is one of the prerequisites of production. It's a difficult process that will only get harder as circuits shrink. Thus, IBM's newly developed ability to align self-assembled components "is a big breakthrough," Black says. "This allows us to truly think about building [hybrid chips]."

Uldrich of NanoVeritas says the complexity of manufacturing ever-smaller silicon chips and the billions of dollars invested worldwide in nanotechnology research will hasten the arrival of full-fledged self-assembled chips. "This stuff is coming," Uldrich says, "and it's coming a lot sooner than many people believe." **55967**



Ulfelder is a freelance writer in Southboro, Mass. Contact him at steve@ulfelder.com.

HACKERS, VIRUSES,
AND WORMS
ARE MET WITH SWIFT
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Starting Over, With Intrusion Detection

There's lots to do at our security manager's new job, but sometimes budget timelines set your priorities. By Mathias Thurman

SECURITY MANAGER'S JOURNAL

AS I MENTIONED in my last installment, I started my new job as the information security manager for a hardware company about a month ago. The company didn't have a security manager for about a year before I was hired.

Because of the lack of infosec leadership, many of the associated duties were absorbed by other departments. For example, the Unix team has been managing the devices used to filter mail and Web traffic. The network team has been managing the VPN concentrators and firewalls. Other infosec duties, such as vulnerability assessments, configuration and patch management, weren't being attended to at all or were being done improperly.

For the past several weeks, I've been soaking up information, meeting key individuals and learning as much as I can about our network, servers and applications. I've realized that I've got a long way to go. And I'm also realizing that there are lots of rocks out there, the kinds of rocks that you lift and find lots of wriggling worms. My challenge will be deciding which rocks I want to turn over.

Spending Decisions

Of course, my priorities are determined by various factors. For example, I have about $80,000 to spend on intrusion detection, and I have to spend the money within the next couple of months. Because I don't want to lose the chance that this budget item represents, refreshing the existing, somewhat limited intrusion-detection system infrastructure is high on the list of things I need to tackle.

My predecessor invested in four RealSecure Network Sensors from Internet Security Systems Inc. in Atlanta and three ManHunt sensors from Symantec Corp. in Cupertino, Calif. These seven sensors give us the ability to monitor the traffic at the edge of our network. Why do we have two different IDS sensors? My understanding is that my predecessor, who was not very technical and was overwhelmed with the need to create policies dealing with the mandates of the Sarbanes-Oxley Act, was coaxed by clever sales representatives into purchasing security products, whether he needed them or not.

This would explain why there is a Cisco Protego event management appliance still sitting in a box alongside some unused Cisco firewall service modules and lots of unopened scanning software. It's not that these are inferior products; they simply weren't needed, and now we're left with a lot of equipment and software that's just lying around collecting dust. I've seen this sort of thing before. Managers sometimes get reeled in by wily sales representatives. The reps show up in nice clothes, use high-end laptops to run cool demos with PowerPoint slides and then hand out pens and T-shirts. They take the manager out for lunch a couple of times and then pressure him into buying the product. Too often, purchasing decisions are made without an evaluation, pilot or validation testing.

> **Too often, purchasing decisions are made without an evaluation, pilot or validation testing.**

I never do business like that. I always take the time to install a product in a lab environment and test it to determine whether it makes sense to deploy in my operations. Many times, I have discovered that a particular feature that was demonstrated by the vendor isn't available in the current version. Or the performance metrics given by the sales engineer don't account for real network traffic, only traffic generated in a lab environment with a packet generator.

So, here I am, the new security manager, and I have a bunch of shelfware to deal with, not to mention a CIO who has a cautious eye because he was burned too many times by signing my predecessor's purchase requisitions.

Getting back to my IDS refresh, we're going to take a look at our existing coverage and spec out what it will take to get to the point where we can monitor all, if not most, of our network traffic. Currently, we're monitoring traffic only at our external gateways and not any of the critical application server traffic, corporate network or lab environments. Once we get a handle on the amount of traffic at each of those points, we can spec out hardware or appliances.

If it makes sense, I may just scrap the ISS and Symantec installations and move to Snort, which is the open-source alternative. Saving money on software will leave more for hardware, and I'll be able to buy more sensors and maybe even look at event correlation tools to help manage security events.

Finding a Skill Set

The problem is that if I deploy Soort, I'll most likely need an almost-full-time employee to manage the infrastructure. Currently, I don't have any good Linux administrators in my department, and I feel that knowledge of Linux and the ability to write scripts are critical in managing a robust Snort infrastructure. If I can't get that technical skill set, then I may have to look to a commercial alternative. Columbia, Md.-based Sourcefire Inc. has several appliances that may serve as a low-cost, supported alternative. Once I get my arms around the scope of our needs, I can make the decision on what and where I will spend my money.

I'm also interested in getting a robust intrusion-prevention infrastructure. Although we've been lucky that we haven't been hit by the recent worms written to take advantage of the Microsoft plug-and-play vulnerability, I want to ensure that our corporate network is protected from unsuspecting employees, as well as from untrusted networks such as labs, VPN segments, partner connections and some core applications such as Outlook Web Access. Many IDS vendors also offer intrusion-prevention systems, so once we decide on one, I'm sure we'll take a good hard look at that vendor's IPS offering as well.

WHAT DO YOU THINK?

This week's journal is written by a real security manager, "Mathias Thurman," whose name and employer have been disguised for obvious reasons. Contact him at mathias_thurman@yahoo.com, or join the discussion in our forum: QuickLink a1590

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SECURITY LOG

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BRIEFS

Microsoft Releases Beta of WinFS

Microsoft Corp. last week released the first beta copy of its WinFS storage subsystem to its developer network. The beta runs on Windows XP. WinFS will still be in beta in late 2006, when Windows Vista is due to ship, according to Quentin Clark, director of program management for WinFS at Microsoft. The company will release WinFS as an add-on after Windows Vista, Clark said.

3Com Offers Remote Module

3Com Corp. in Marlboro, Mass., has announced the 3Com IP Telecommuting module. The product allows large companies to provide remote users with secure access to communications applications, 3Com said. The module relies on technology from Ingate Systems Inc. It sells for $80 per user.

Sybase Upgrades Wireless App

Data integration and database software maker Sybase Inc. in Dublin, Calif., last month announced the Sybase Unwired Accelerator 7.0. The application has a new wizard to connect mobile devices with SAP applications. It is available now, at a cost of $29,000 per CPU.

Journyx Updates Timesheet Tool

Journyx Inc. introduced Version 7 of its Timesheet system. New features for the Web-based timesheet and expense management system include a workflow mechanism for adding users and projects, according to Austin-based Journyx. Timesheet 7.0, which runs on Linux, Windows, IBM's AIX and Sun Solaris, is priced from $100 to $200 per user for a permanent license, or $8 to $10 per month per user under an application service provider model.

KEN KARACSONY

Too Much ETL Signals Poor Data Management

TO PUT IT BLUNTLY, performing extensive extract, transform and load (ETL) processes is a symptom of poorly managed data and a fundamental lack of a cogently developed data strategy. When data is managed correctly as an enterprise asset, then ETL is significantly reduced and in many cases completely eradicated. Now, I realize that this is a provocative statement, but in my estimation, ETL is overused within the IT community, leading to inefficiency and unnecessary expense.

ETL gained popularity as companies began to outgrow antiquated systems. As functionality was moved from legacy systems to open systems architectures, ETL played an indispensable role in moving the data. Unfortunately, many companies failed to completely retire their outdated systems; rather than performing ETL as a one-time initial load event, ETL evolved into a part of daily operations.

This problem was further exacerbated as companies developed systems within functional silos. The application-specific approach, in which the database is designed to accommodate the needs of an individual group or department, took root. According to this methodology, every new system requires its own database. As a result, data is copied from system to system. Hence, ETL is now firmly ensconced in nearly every company and is an integral part of IT operations.

Consider a simplified example of typical ETL activities, in which data is propagated from the product system into warranty, finance, purchasing and sales systems, and eventually into the data warehouse. Not only is the data extracted and loaded, but it must also be transformed because the data structures between systems are completely disparate.

This problem is compounded when the data is propagated back to the source system in order to synchronize the data that's no longer synchronized between systems precisely because it was copied. The inevitable result is poor data quality and high maintenance costs.

If the product database in this example changes — for instance, if a new field or table is added — it will be necessary to change all of the maps that move data from the source to a target. One minor structural change in the source can create a maintenance nightmare in the ETL maps and target databases — a lot of IT expense with no value added.

The only legitimate ETL activity in this example is the data warehouse interface. All others are unnecessary and incur a tremendous cost. According to Larry English, president of Information Impact International and a leading expert in information quality, "The IS staff is busy maintaining, on average, a tenfold [increase in] redundant databases and the redundant applications or interface programs that re-create or move the data." Ouch.

The solution to the problem is really quite simple, but it requires a new way of thinking. The answer is a single, sharable, enterprise-strength database for each major subject area. The key is to design each of these databases to meet the needs of all of the information consumers.

With the advent of new technology, there is absolutely no need to propagate data from system to system, thereby creating unnecessary (and expensive) redundancy. Applications can now access data via shared services from different databases.

Information is a corporate asset and doesn't belong to one group or department. Therefore, databases must be designed and implemented with both producer and consumer in mind. The entire company must be involved in defining entities and attributes and modeling relationships.

To support this new way of thinking, applications can't be designed in a vacuum. IT must re-engineer applications to use common, shared databases centered on the significant subject areas. The database, and not the application, is the center of the universe.

There's a simple rule I use to determine whether a company has an effective data strategy. I start by counting the number of ETL processes and redundant databases. The higher the number, the less likely it is that the company manages its data correctly.

Next, I ask, "Why did you create another database with similar data?" Often the answer is that the data is not in the right format or doesn't support the new application, or the source is incomplete and inaccurate. And then I know that the company is wasting money and resources performing unnecessary, costly maintenance and development rather than producing value-added services based on sound data management techniques. 56514

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Think Tank
A benchmarking study proves that IT complexity — too much customization, too many data silos and too many vendors — dramatically increases back-office costs. **Page 40**

Career Watch
John Parkinson of Capgemini answers readers' questions about leading an IT department and avoiding a dead-end career path. Plus, get the scoop on pre-employment testing services. **Page 42**

OPINION
Too Much Information
Want people to remember what you say? Paul Glen suggests that you moderate your verbal torrent to a trickle of well-chosen words. **Page 44**

Certifiable

IT certifications are everywhere, but what do they really prove?

BY MARY K. PRATT

LARRY GOUDE

BOSTON MEDICAL CENTER and Boston-based Partners HealthCare Systems Inc. hire entry-level technical workers through Atlantic Associates Inc. Both organizations look for similar qualities in their new hires, but there's one telling difference: Boston Medical Center specifically seeks to employ workers with certifications such as A+ and Microsoft Certified Professional. "We think it's an indicator of professionalism and dedication to the industry," says Darren Dworkin, chief technology officer at Boston Medical Center.

While Dworkin stops short of calling certifications a requirement, he says he uses them to differentiate between candidates.

Carlo Severo, who manages the help desk at Partners, sees certification as a bonus but not necessarily a differentiator. "I have people with certification and without. I would challenge you to tell me who was which," he says.

So, who has it right, Dworkin or Severo? Can certifications really tell something about the people who hold them, or are they minor points on résumés today?

Downward Slide

Lately, certifications seem to have lost some of their allure. A study by Foote Partners LLC, a research firm in New Canaan, Conn., shows that for the 12-month period that ended April 1,

noncertified workers received a larger average pay increase than those with certifications — 3.6% compared with 2.9%.

Some say the study shows a shift in the value IT executives place on certifications.

"It's being put in its right place," says Robert Miano, president and CEO of Harvey Nash USA, the U.S. arm of London-based Harvey Nash PLC, a global recruitment company. "Certifications are going to stay, but they're not as highly regarded as they have been in the past."

Miano says he has seen a change in the way the market treats certifications, which were initially well received. He says they have become "watered-down and diluted" as the number of certifications and third-party teaching centers has grown. Certification exams have also become less stringent, he says.

"What has happened is the value of certification has gone down because you can get it so easily," he adds. "Companies realize that certification isn't as meaningful as it used to be."

As a result, Miano says, his clients put a higher value on experience.

William Butler, an IT technician at the Gilmer Independent School District in Gilmer, Texas, has also seen this shift during his nearly 20 years in IT. "Certification at one point was a standard that could be used to gauge an individual's proficiency. That was in the early years," he says. Now most certifications are awarded by vendors and "seem to be more of a vehicle to promote their products."

Butler has no certifications; he says he has relied on his reputation to advance his career.

Jerry Luftman, associate dean of graduate IT programs at Stevens Institute of Technology in Hoboken, N.J., and an officer of the Society for Information Management (SIM) in Chicago, also downplays the value of certifications.

"I would certainly weigh experience as much more valuable than a score on an exam," Luftman says, adding that he sees IT employers increasingly seeking out marketing, communication and leadership skills that aren't measured by any exam.

The Foote research "certainly suggests that one should question the merits of the certifications," says Luftman. "But again, is technology the only criteria a manager uses to give pay increases? No."

Others agree that job offers and compensation ought to be based on factors ranging from experience to attitude. "There are other key criteria you're not going to get through certification," says Stephen Pickett, CIO at Penske Corp. in Bloomfield Hills, Mich., and president-elect of SIM.

And Pickett confirms the Foote study's findings that people with certification don't necessarily command higher pay: "I'm going to pay the same money for the same base knowledge," he says.

That's why many say experience is the real key. "If you have someone with experience but no certification vs. someone with certification but no experience, you're going to take the person with experience," says Jack Harrington, president of Atlantic Associates, a Boston-based firm specializing in IT staffing and consulting.

Brian Ellis, a network analyst working as a part-time contractor at Massachusetts General Hospital, is a good case in point. Ellis is a Microsoft Certified Professional and holds A+ and N+ certifications. He says he considered going for the Microsoft Certified Systems Engineer certification but opted against it. "I have five years as a systems engineer with Microsoft products. I don't feel like I need to prove that I can pass a test," he says.

Ellis adds that he's busy enough — and well compensated — with his work at MGH and as an owner of a Concerto Networks Inc. franchise in Stoneham, Mass. "I will probably never get certified in anything else," he says. "Continuing education is important. It's absolutely important. But I'm not a big fan of certifications."

On the Other Hand

Not everyone shares Ellis' views. In fact, some managers still place a high value on IT certifications. Pickett says many IT managers see certifications as a sign of a self-starter who is willing to learn. He says that when he reviews entry-level candidates who have just a few years of work experience, certifications are "a good differentiator, but not the final decision."

Certifications are also valuable for midlevel professionals charged with very specific duties, he adds. That's when Microsoft, Oracle or Cisco certifications are desirable — though they're still no substitute for experience on those vendors' systems.

Though some managers claim that experience trumps certifications, Harrington says his clients still prefer to see certifications on applicants' résumés. Clients particularly want certifications in newer technologies, such as Linux, and they're willing to pay for them. "It is a good selling tool if you're certified," Harrington says.

Sharyle Doherty, vice president of product management at The Ultimate Software Group Inc. in Weston, Fla., sought someone with a security-related certification when the company created a security analyst position. "We look at certifications as an indicator that someone has gone the extra mile to prove their experience in a certain field," says Doherty.

When Doherty couldn't find a certified security expert, she sent an in-house worker for certification to fill the new position. The worker was compensated for the training. "We consider it an accomplishment and something to reward her for," Doherty says.

So the verdict? IT certifications are neither a guaranteed money magnet nor a guaranteed waste of time. They may indicate drive as well as knowledge, but they can't measure experience or non-IT skills. Executives, hiring managers and workers at all levels conclude that it's best to consider them as just one part of the overall picture. "If [job candidates] aren't certified, it's not going to prevent them from being hired. It's more of an added bonus," Doherty says. "But you still have to check into their actual job experience — that it's not just book knowledge, that it's knowledge they can apply." **56336**

Pratt is a Computerworld contributing writer in Waltham, Mass. You can contact her at marykpratt@verizon.net.

A Better Way?

WILLIAM BUTLER deviated from the standard teaching material when he taught A+ and N+ certification courses a few years ago to students studying desktop configuration and networking.

Butler, an IT technician with the Gilmer Independent School District, says he threw "kinks" into the usual course work. He wanted his students to learn to apply book-based knowledge to real work situations – something he says standard courses often fail to teach.

He's not alone in his belief. Other IT leaders also say certification courses don't always teach students to apply their knowledge to everyday IT problems. They say the process needs to be strengthened if certifications are to retain their value.

"I would love to see certification demonstrate that performing well on the exams correlates to one's success in using that tool. I don't think they have done that," says Jerry Luftman, associate dean of graduate IT programs at Stevens Institute of Technology.

Butler goes even further. He suggests an overhaul that would apply old-fashioned learning methods to high-tech jobs. "Have an individual apprentice, much the way that licensed electricians do," he says. "At the end of the apprenticeship, they'll receive their certification."

A new certification moves in that direction. The Open Group LLC, a

technology consortium in San Francisco, recently started a certification program that defines a set of standards for measuring the skills and experience of IT architects [QuickLink 55592]. "The thrust of our program is experience," says Graham Bird, vice president of marketing at The Open Group. "What candidates have to demonstrate for this certification is all about doing the job."

Bird says there's a need to separate architects with proven track records from job seekers padding their résumés. The new certification would let employers quickly know a candidate's qualifications, he says.

To earn this certification, applicants will have to go before a board of their peers to prove their skills. "It's not a 'Can I take an hour exam?' type [of] exercise," Bird says. "This program is intended to capitalize on the value of experience."

–Mary K. Pratt

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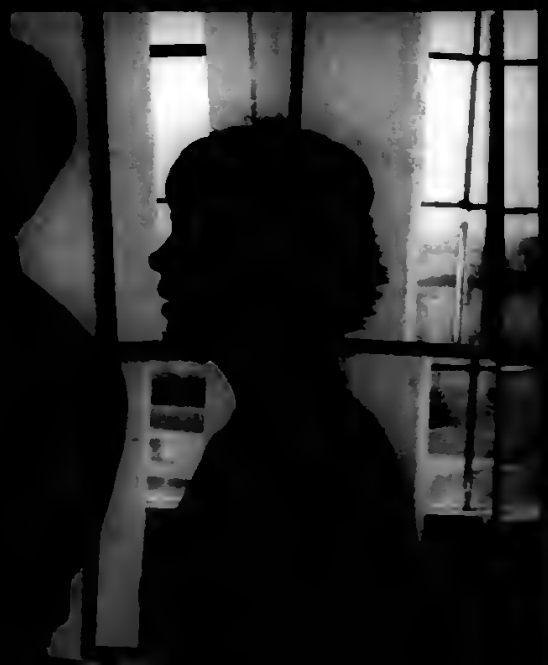

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REASONS TO Do It Yourself

Software licensing headaches and maturing offshore development services are inspiring maverick IT shops to build rather than buy.

BY PATRICK THIBODEAU

RICHARD HOFFMAN is not a fan of software licensing terms. "Every time you are on somebody's proprietary [software], they always try to come back and milk you," he says.

But the president and CEO of Hyundai Information Service North America LLC, the IT arm of Hyundai Motor America, has found a partial solution to the problem: building his own software offshore.

"We do a lot more customization and writing of small applications than before," says Hoffman.

That gets him out of annoying licensing situations, such as the time a software vendor wanted to change licensing from concurrent users to named seats. Charging for every user, not just those who used the system at any given time, would have raised the automaker's cost by $3,300 per seat. "You are better off just having some Java coders write it and pay them to maintain it offshore," says Hoffman, adding that most of the applications he has built are for nonstrategic Web services-related processes.

Hyundai's Fountain Valley, Calif.-based company isn't alone. A few other maverick IT shops are bucking the buy trend and building their own software. Their reasons include the perennial problem of off-the-shelf software not meeting their needs, but there's also a new level of annoyance with licensing issues and a new confidence in offshore development.

Off the Grid

Acxiom Corp., a data integration provider in Little Rock, Ark., runs its 6,000-node grid (two processors per node) on software built by its in-house development team.

Acxiom takes a hybrid approach to software, says Ken Archer, product leader for customer information infrastructure. It uses commercial packages wherever it can but builds its own when it makes more sense to do so.

For example, when Acxiom began building out its grid in 1999, few mature software packages were available. Moreover, many application providers license software in ways that are ill adapted for grid environments. For instance, a license based on the number of CPUs used to run an application isn't suited for a grid environment that can scale across hundreds or thousands of processors, Archer says.

Unlike Hyundai Information Service, Acxiom doesn't use offshore development, because it has in-house expertise, Archer says. The company is also helped by its Arkansas location, where prevailing wages for IT skills are typically below those in major metropolitan markets.

For other CIOs, low-cost offshore development may be encouraging another look at the build option, particularly if they need to customize a packaged product, says Andrew Bartels, an analyst at Forrester Research Inc. in Cambridge, Mass. It may be less expensive to build an application and pay maintenance fees to an offshore developer than it is to buy a license as well as service and support, he says.

"The build argument is becoming more viable because people are feeling very comfortable with the maturity of offsbore operations," adds Atul Vashistha, CEO of NeoIT.com Inc., a consulting firm in San Ramon, Calif.

Recognizing that interest in custom development is growing, Indian firms have made it more attractive, says Lance Travis, an analyst at AMR Research Inc. in Boston. Indian offshore providers bave ready-made components that can be the foundation of

an application in a particular industry, he says.

For instance, Patni Computer Systems Ltd., whicb does custom development for financial services and other vertical markets, has created templates that provide the underlying code infrastructure. It augments that infrastructure with third-party vendor products, such as those made by content management firm FileNet Corp., according to John Pierce, vice president of insurance industry solutions at Mumbai, India-based Patni.

Still a Niche

Bartels says homegrown systems will account for as much as one-third of U.S. businesses' total software spending this year, which Forrester estimates will be about $221 billion. Nevertheless, he says, the long-term shift to off-the-shelf applications continues.

Offshore vendors agree. "I don't think the fundamentals of build vs. buy have changed," says Marc Hebert, executive vice president of marketing at Sierra Atlantic Inc., a Fremont, Calif.-based provider of offshore services. "I think that was an irreversible shift," he says, because the selection of packaged software that's available these days is "much richer" than it used to be.

"The trend will be to leverage as much commercial software as possible, because the focus is on putting the pieces together to solve a problem," Hebert says.

Acxiom's Archer agrees. He sees his in-house development as a stopgap measure necessary because commercial providers don't offer the functionality and flexibility he needs. But Archer says that when packaged software is available that can meet his company's requirements, that's what he'll use, because he would rather focus his IT staff on customer needs than in-house development. **56339**

A Third Way

NANCY RITTER has taken a third approach to the buy-or-build question.

The vice president of information technology at Crowley Maritime Corp., an Oakland-based shipper, is using on-demand software hosted by Alameda, Calif.-based GT Nexus Inc. The software powers transportation and logistics systems to connect suppliers and customers with her company.

Ritter says she likes the flexibility of the software-as-service model. But while Ritter doesn't build applications, except in limited instances, she says offshore development has already reduced the cost of the software she buys.

For example, when one transportation software vendor began using less-expensive offshore maintenance and support, Ritter demanded contract terms that enabled her to take advantage of the vendor's reduced costs. The vendor agreed to cut its maintenance charges by $25,000 per year for the next four years to reflect that savings, she says.

–Patrick Thibodeau

NEW REASONS TO Do It Yourself

Software licensing headaches and maturing offshore development services are inspiring maverick IT shops to build rather than buy.

BY PATRICK THIBODEAU

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FOOD FOR IT EXECUTIVES

The High Cost of IT Complexity

CIOs KNOW INTUITIVELY that too much customization and a hodgepodge of IT products will boost costs. Yet when business managers have argued that their particular group has "unique" needs requiring yet another custom system, CIOs haven't had a strong counterargument in favor of standardization.

But a study of 250 companies by benchmarking firm The Hackett Group in Atlanta may provide the ammunition CIOs need to defeat the customization argument, says David Hebert, IT practice leader at Hackett. The study found that companies that fail to reduce the complexity of IT spend 36% more on finance operations and 18% more on human resources functions, per employee, than companies that have successfully battled the complexity monster.

BETTY HANSEN

Why? Overhead costs are much higher at companies that have more than 10 finance applications or lack a global standard for HR apps, Hackett found. IT costs go up because there are more hardware and software vendors to deal with, more customer and supplier databases to manage and integrate – and more incompatible data.

But IT organizations that keep a lid on complexity spend 15% less than their peers and operate with 36% fewer staffers while bringing in projects on time and under budget 25% more often, Hackett found. With data like this, Hebert says, CIOs will be able to educate business managers so they can make informed decisions about whether there's really a strong business case for deviating from the corporate standard.

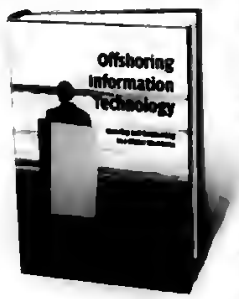
– Mitch Betts

SOURCE: ALAN AHN, CMU ANDREI JIRNI, 2005

Best Bits

The most useful parts of recent business and IT management books

THE BOOK **Offshoring Information Technology: Sourcing and Outsourcing to a Global Workforce**, by Erran Carmel and Paul Tjia *(Cambridge University Press, 2005).*



It looks and feels like a stodgy college textbook, but there are some fascinating insights here for IT executives who can get over that hump. The superb content isn't surprising once you realize that co-author Erran Carmel, an associate professor at American University in Washington, was a leading expert on globally dispersed software teams long before CNN's Lou Dobbs ever heard of offshore outsourcing.

Refreshingly, the authors don't take a political stance. "Whether one is for it or afraid of it, we are convinced that managing offshoring is a competency that tomorrow's IT managers must learn. We wrote this book to help build that competence," the authors begin in typically no-nonsense fashion.

As you'd expect, the book has country sketches and thoroughly covers subjects such as managing contractors, risks and legal issues. But for me, the richest sections deal with "soft" topics like cross-cultural issues and overcoming the problems of distance, time zones and language.

For example, there's a great danger of miscommunication with Indian IT workers if Americans use slang, business code words or too-subtle hints. An American who says, "I was a bit disappointed that . . ." may actually be upset, but the Indian may interpret that statement as "It doesn't really matter."

And while American IT workers use the word *contractor* as a business term, in India, the term could mean one who cleans toilets.

Don't fly to Bangalore without reading this book. **56352**

– Mitch Betts

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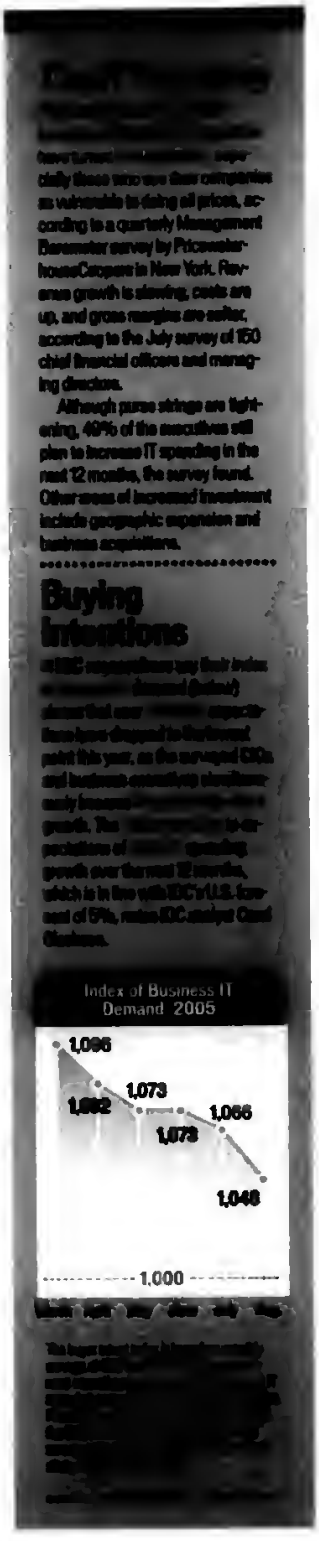

have turned [illegible] especially those who see their companies as vulnerable to rising oil prices, according to a quarterly Management Barometer survey by PricewaterhouseCoopers in New York. Revenue growth is slowing, costs are up, and gross margins are softer, according to the July survey of 150 chief financial officers and managing directors.

Although purse strings are tightening, 49% of the executives still plan to increase IT spending in the next 12 months, the survey found. Other areas of increased investment include geographic expansion and business acquisitions.

Buying Intentions

[illegible] expenditures say their [illegible] demand (below) [illegible] expectations have dropped to the lowest point this year, as the surveyed CIOs and business executives [illegible] growth. The [illegible] expectations of [illegible] spending growth over the next 12 months, which is in line with IDC's U.S. forecast of 5%, notes IDC analyst Chad Gladeau.

Index of Business IT Demand 2005

ThinkTank

BRAIN FOOD FOR IT EXECUTIVES

The High Cost of IT Complexity

CIOs KNOW INTUITIVELY that too much customization and a hodgepodge of IT products will boost costs. Yet when business managers have argued that their particular group has "unique" needs requiring yet another custom system, CIOs haven't had a strong counterargument in favor of standardization.

But a study of 2,850 companies by benchmarking firm The Hackett Group in Atlanta [redacted] the conventional CIO [redacted] customization-equivalent, says Hackett. Hackett, IT [redacted] The study [redacted] that fail to reduce the [redacted] of IT spend 39% more on [redacted] operations and 18% more on human resources functions, per employee, than companies that have successfully limited the complexity monster.

Why? Overhead costs are much higher at companies that have more than 10 finance applications or lack a global standard for HR apps, Hackett found. IT costs go up because there are more hardware and software vendors to deal with, more customer and supplier databases to manage and integrate – and more incompatible data.

But IT organizations that keep a lid on complexity spend 18% less than their peers and operate with 39% fewer staffers while bringing in projects on time and under budget 29% more often, Hackett found. With data like this, Hackett says, CIOs will be able to educate business managers so they can make informed decisions about whether there's really a strong business case for deviating from the corporate standard.

– *Mitch Betts*

Best Bits

The most useful parts of recent business and IT management books

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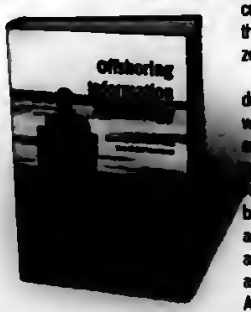

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Career Watch

I've spent five years of a 10-year career at a small company, managing all of IT. I can accept another full leadership role at a small company or join a very large company in a job requiring specialization. Would that detract from gaining a leadership role in the future? If you have just been managing IT rather than truly leading, the transition to a larger company could be challenging. Besides specializing, you'll be taking direction from managers who may lack your breadth of experience. While it's difficult to become an effective general manager able to run an IT shop as though it was a complete small business, once you have mastered this, it's even more difficult to go back to a narrower functional role. In this case, an organization of similar size, perhaps one that offers the opportunity to have more direct business operations involvement, might be a better fit.

If, however, you've truly been leading your team, adjusting to a larger organization may require some compromises, but leadership skills are in such short supply that you'll likely do well anywhere such skills are recognized and valued. Make sure the company really does value leadership, though. Not everyone who says so does.

I've taken classes and applied for positions in other areas, but I continue to work as a systems programmer on a mainframe that is destined for the scrap heap. How do I break into other technologies and avoid the unemployment line? Despite the rumors, I see no real sign that the mainframe is going away anytime soon. No other platform can offer large corporations the same power, throughput and reliability. I do see the mid-size mainframe as an endangered species, however, and non-IBM mainframes are definitely on the way out. So if you are involved in either of those scenarios, you are right to be concerned.

What is changing is the role of the mainframe – from a very large, general-purpose computer in need of constant attention by systems programmers to machines in more specialized transaction, database or virtual server roles. The systems programmer role is evolving alongside these changes. Ask yourself some basic questions: What do I really know about? What skills underlie the work I do? Where do I see areas where these skills and knowledge would also apply? Increasingly, areas of security architecture, asset management, network management and data center operations require skills similar to the skills of systems programmers. Sure, the technology is different, but you will likely find the process and problem-solving approaches familiar. **56293**

Page compiled by Jamie Eckle.

Testing, Testing

WHEN YOU'RE TRYING to fill an open position, how do you know which candidate will perform best in the job? Every interviewer has a different style, making for some apples-to-oranges comparisons. And it can be difficult in a typical job interview to assess a candidate's skills and whether he's a good match for the position.

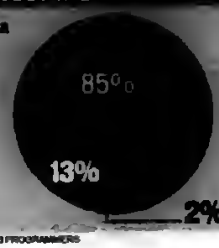
To address these problems, Taleo Corp., a San Francisco-based provider of talent management systems, is offering companies a pre-employment assessment service. Taleo CEO Michael Gregoire sees the tests as a good fit for IT recruiters.

"If you're an IT manager and you're looking for a Java developer," he says, "what is the definition of being a working expert? If you have a set of questions that define what an expert is, that will go a long way toward helping you during the hiring process."

– Thomas Hoffman

Go Ahead, Test Me

How would you most likely react if a company were to ask you to take a skills assessment as part of the application-screening process?



- Would take the test
- Would find it inappropriate but take it anyway
- Would refuse the test

SOURCE: TOPCODER EMPLOYMENT SERVICES ONLINE SURVEY OF 543 PROGRAMMERS

Leadership: A Lot Isn't Working

U.S. workers have doubts about the leaders of their companies

	Agree	Neutral	Disagree
Senior management does a good job of explaining the reasons behind important business decisions.	38%	31%	31%
Senior management at my organization does a good job of confronting issues before they become major problems.	39%	32%	29%
I trust management in my organization to always communicate honestly.	40%	23%	37%
I believe my organization as a whole is well managed.	49%	26%	25%
Senior management communicates a clear vision of the future direction of my organization.	49%	24%	27%
Senior management of my organization does a good job of establishing clear objectives.	52%	27%	21%

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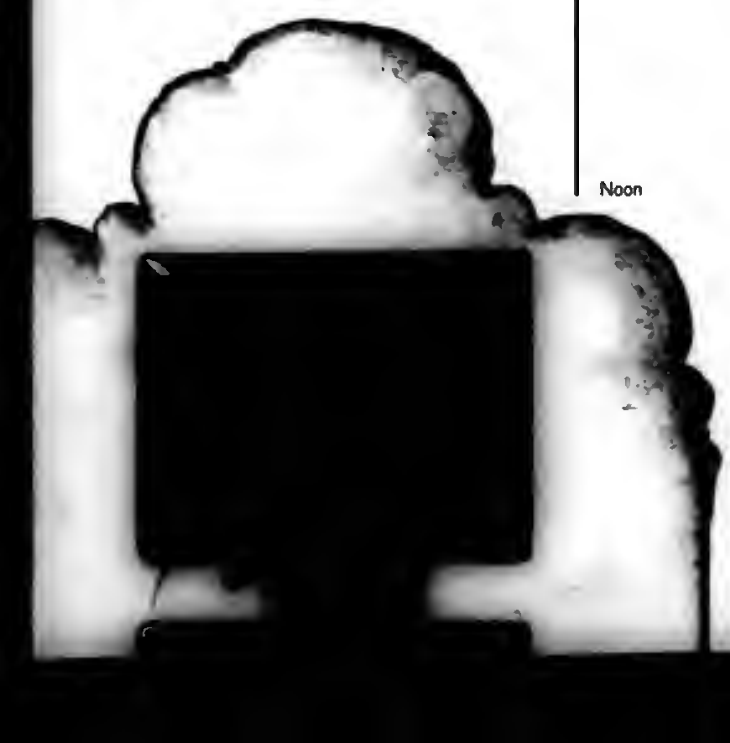

Beyond Business Intelligence: Using Enterprise Analytics to Drive Fact-Based Decisions

San Francisco, California · September 20, 2005

Pan Pacific San Francisco Hotel · 500 Post Street, Union Square

8:00am to 8:30am	Registration and Networking Breakfast
8:30am to 8:40am	**Introduction and Overview** Julia King, Executive Editor, Events, and National Correspondent, Computerworld
8:40am to 9:10am	**Trends in Enterprise Analytics: An Industry Analyst's Overview** Keith Gile, Principal Analyst, Forrester Research
9:10am to 10:00am	**Transforming Enterprise Data Into Actionable Business Intelligence** Keith Collins, SVP and Chief Technology Officer, SAS Gillian Lash, District Manager, Northern California, Americas Customer Solutions Group, Intel Corporation
10:00am to 10:15am	Refreshment and Networking Break
10:15am to 10:45am	**Case Study: APEX Management Group** Jody Porrazzo, Ph.D., Director of Econometric Risk Strategy, APEX Management Group
10:45am to 11:15am	**Case Study: Quaker Chemical** Irving "Bubba" Tyler, Vice President and CIO, Quaker Chemical
11:15am to Noon	**Panel Discussion – From Gut Feel to Fact-Based Decisions: Real-Life Business, Political and Technology Lessons Learned on the Front Lines of Enterprise Analytics** Moderator: Julia King, Executive Editor, Events, and National Correspondent, Computerworld Panelists: · Jody Porrazzo, Ph.D., Director of Econometric Risk Strategy, APEX Management Group · Irving "Bubba" Tyler, Vice President and CIO, Quaker Chemical · Keith Gile, Principal Analyst, Forrester Research · Keith Collins, SVP and Chief Technology Officer, SAS · Gillian Lash, District Manager, Northern California, Americas Customer Solutions Group, Intel Corporation
Noon	Luncheon (optional)

Selected speakers include:

Jody Porrazzo, Ph.D.
Director of Econometric Risk Strategy, APEX Management Group

Irving "Bubba" Tyler
Vice President and CIO, Quaker Chemical

Keith Gile
Principal Analyst, Forrester Research

Keith Collins
SVP and Chief Technology Officer, SAS

Julia King
Executive Editor, Events, and National Correspondent Computerworld

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www.rfgonline.com

PAUL GLEN

Too Much Information

TECHNICAL PEOPLE have a bad reputation for being poor communicators. And unfortunately, it's not entirely undeserved.

If you ask managers in the finance department about why they think that the IT people they deal with are bad communicators, they point to all the common complaints.

"They speak in impenetrable jargon."

"They don't listen well."

"They don't understand what I'm trying to accomplish."

While these are sometimes valid critiques, the problem often lies elsewhere. Frequently, we *do* listen well and we *do* understand what the business wants to do. (OK, the jargon thing is fair.)

The real problem was driven home for me recently at a conference where I was giving a presentation. I came early to hear what some of the other speakers had to say. They clearly articulated lots of interesting ideas. But ultimately, many failed to transmit the key points that they wanted to share.

Why? They simply ran out of time. I was surprised at how consistently the conference managers needed to give presenters the hook in order to keep the day remotely on schedule. After 15 minutes, presenters were still talking about slide No. 4 of 40, and it was clear that we weren't going to get the discussion we really wanted out of the talks.

It wasn't that their information was uninteresting or poorly organized or padded with irrelevant data. The problem was that the more information a presenter wanted to share, the less we in the audience received. The presenters were so enamored of their own ideas that they couldn't condense them into a form for others to digest. Every detail was so precious that they couldn't part with a single one.

Unfortunately for the audience, that meant that they didn't get much of anything. They were being assaulted with too much information and lost the main ideas in the onslaught.

I've found that this is a common problem, not just on the speaking platform, but in most offices. CEOs dismiss CIOs as being hopelessly mired in details and unsuitable for higher management posts because they can't communicate the core of an issue in a paragrapb or less. Clients write off project managers because they can't pull the important message out of the complete picture. Business analysts consider developers hopelessly technical because they won't relate important information in a format that others can use.

As problem solvers, we delude ourselves into thinking that others can't understand anything about a problem without understanding everything about it.

If you'd like to be a better communicator and overcome the too-much-information problem, here are a few things to think about before you open your mouth:

What do you want them to remember from the conversation an hour from now? Managers, clients and subordinates are barraged with information and data all day, every day. Most of it passes through their brains like cars through a freeway interchange. Think carefully about what you want them to recall in an hour. If you were to go back and ask them what the conversation was about, what would you want them to say?

The half-life of information is short. What falls outside of that recollection window may be irrelevant detail that's better left unsaid.

What do you want them to remember from the conversation a week from now? If it's hard to retain information for an hour, think about a whole week. What do you want your audience members to remember a week after your discussion? Realistically, it will be considerably less than what they will recall after an bour.

What do you want them to do with the information? Most business communication has a purpose beyond just self-expression. Usually, the motive is either calibration — keeping others informed of progress and approach — or action. If it's calibration alone, the previous two questions should guide your communication. If you want people to make a decision or take action, tell them what you want them to do. And give them the information they need to carry out that action.

If you want your words to carry more weight, start by cutting down on the number you use. Powerful communicators say more with less rather than less with more. **56338**

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"The general perception is that the typical experience with outsourcing is great until you try it," said DeMaria. "We've limited our outsourcing to infrastructure support."

"The issues generally are that [IT managers are] not happy with the outsourcing providers" for such tasks, said Gartner analyst Kimberly Harris-Ferrante. However, she said problems aren't always caused by outsourcers but rather often stem from a bank or insurance company's lack of experience with large outsourcing deals.

Nonetheless, outsourcing is growing, Harris-Ferrante said, noting that Gartner expects U.S. financial services firms to spend an average of $65.6 million oo such services this year, up from $53 million in 2002. Gartner predicts that figure will grow to $83.8 million by 2009.

Careful Approach

ABN Amro Bank NV, for example, last week awarded a series of IT outsourcing contracts worth $2.2 billioo to IBM, Accenture Ltd. and three Indian companies — Infosys Technologies Ltd., Tata Consultancy Services Ltd. and Patni Computer Systems Ltd.

On the other hand, London-based Barclays Bank PLC plans to more carefully evaluate whether projects should be outsourced, said Stuart Gilmour, head of business development for the bank's group technology office.

In the past, be said, Barclays has sent a "reasonable" amount of tactical IT and applications development work to India, but the company is no longer approaching outsourcing as a standard practice.

"We'll continue to explore [outsourcing] where we see it being the right thing to do. But I think we're getting to the point where where [it has to be] based on its merits," Gilmour said.

Meanwhile, some users at the conference said they're creating their own development centers in India to take advantage of what they described as cheap, motivated and skilled labor. "We went the captive route because of the span of control we get," said Sean Motley, vice president of IT at New York-based Lehman Brothers Inc.'s investment management division.

Motley said that in February his company launched a "massive" recruiting effort in Mumbai, India, to staff a new 1,000-person IT and business-processing center there. Several Lehman Brothers divisions were charged with making plans to outsource some IT development projects to the operation, be said.

Motley said his unit's plan calls for dispatching its Java and .Net application development projects to the Indian operations. Each division is responsible for the success of its own efforts there, be noted.

Motley added that Lehman Brothers still outsources more mundane Cobol and DB2 maintenance and development work to providers such as Tata Group in Mumbai. **50577**

Agile Programmers Turning to New Tools

Begin to accept products that automate work

BY HEATHER HAVENSTEIN

Corporate IT departments embracing lightweight agile-development methods are increasingly turning to some emerging tools built to work within the process.

Developers using agile programming methodologies such as Scrum and extreme programming have historically eschewed such tools.

Lightweight agile methods typically call for small teams to demonstrate new functionality every few weeks, speeding the development process. The methods also eliminate extensive documentation and call for performing early testing to simplify development.

First American Real Estate Solutions LP, which collects and provides access to real estate information, uses a Web-based planning, tracking and management tool from Alpharetta, Ga.-based VersionOne LLC that's built for agile development.

For the past five months, First American has been moving to agile programming methods. The VersionOne tool allows development teams in California, North Carolina, Florida and India to manage requirements, team tasks and metrics, said Scott Spencer, vice president of engineering at the Anaheim, Calif.-based company.

Just the Facts

Alogent Corp., which develops payment-processing systems for banks, has been using VersionOne software for the past year as a replacement for spreadsheets, along with Microsoft Project to plan and track agile development projects.

The tools make project details available to Alogent's 50 developers and to others in the company, said Ian Culling, vice president of product development at the Alpharetta-based firm. "The marketing group is able to go and take a look at the high-level road map and can drill down and see status of features," be said.

"One of the things that kills agile methods is the fact that index cards on a bulletin board don't work to keep people informed as to where you are, where you're headed," Culling said. "Now we have a single source of information, and there is no duplication — which was killing us before, because you end up making decisions based on shaky information."

SOURCE: FORRESTER RESEARCH INC.

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Carey Schwaber, an analyst at Forrester Research Inc., said that as more companies adopt agile methods to get higher-quality products to users more quickly, development teams are adopting tools tailored for agile developers.

And companies are bringing out more tools to meet the need. For example, Borland Software Corp. this week will unveil JBuilder 2006, a version of its integrated development environment that offers new peer-to-peer collaboration to allow distributed developers to view and share source-code editors, debuggers and other tools in real time, said Rob Cheng, Borland's director of product marketing.

The product targets programmers who use agile methodologies, Borland said.

In July, Rally Software Development Corp. in Boulder, Colo., unveiled the new release of its life-cycle management tools for agile teams, and VersionOne announced its next-generation planning and management suite. **50590**

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Why Some Projects Fail

- Lack of internal infrastructure to manage such projects
- Failure to understand the effect on other activities
- Lack of communication with customers
- Lack of management support
- Lack of vendor relationship management
- Incomplete or invalid metrics
- Unrealistic expectations

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FRANK HAYES ■ FRANKLY SPEAKING

Survival Skills

WHO WILL SURVIVE IN IT? That's a pretty grim way to frame the issue, especially considering recent good news. IT pay is rising again for some skills, according to staffing research firm Foote Partners. IT employment keeps inching upward — not by much, but at least it hasn't dropped since March, according to the Bureau of Labor Statistics.

Then again, we've all heard the Gartner predictions that IT shops will shrink by one-third in the first decade of the 21st century. And we've all watched that happening in recent years.

So, on this Labor Day 2005, it's no trivial question. Who *will* survive in IT — and how can you be one of the survivors?

Simple answer: It's about value. Convince your boss that you're really too valuable to the business to let go, and you *will* survive.

And how do you do that? The industry deep-thinkers will say that you won't do it by working longer hours or choosing the right technical skill set or collecting the right credentials. That's the way techies think. And pure techies are the IT people who won't survive. They're doomed, dead men walking, because they'll never figure out that business smarts, not technical chops, are what create value in IT today.

Pure techies don't see the point in understanding and navigating the labyrinth of office politics — why it's important to know who's got clout, whose users really matter and which projects have real backing. It's too pointlessly Machiavellian to them. That's why they'll probably be blindsided by the next big purge that flushes them away.

And they don't get why it's important to understand the company they work for and the industry their company does business in. So they'll make business-clueless mistakes. They'll meet the specs for the Sarbanes-Oxley project, but it won't pass the audit. They'll hold off rolling out the new sales application because some widget isn't working quite right, even though revenue is being lost. They'll solve technical problems brilliantly but fail to fill real business needs.

They don't care about how sales works, and supply chains, and billing, and everything else IT supports. They don't see the big picture or the most critical details. So they'll get the technology right but the business part wrong. They won't add value. And when push comes to shove, they won't survive.

That's the conventional wisdom. And it's half right. If you're a pure techie who truly can't wrap your brain around why business matters, you're an endangered species.

But if this business stuff just seems illogical, chaotic and meaningless compared with the elegant rationality of technology, then there's still hope. So let's try once more to understand the business side — this time in pure techie terms.

Look at it this way: Your company and industry are a very badly designed system, built piecemeal and wired together in ways that work badly, if at all. It's the worst kind of legacy junk — and your job is to keep it running.

And like most legacy junk, it can't be replaced wholesale. You can only patch it, repair it, devise work-arounds and maybe refactor some small piece of the system now and then.

But before you can keep it running, much less improve it, you must understand the system's operation: the inputs and outputs, the bottlenecks and critical paths, the operational requirements and parameters.

In other words, you've got to know how the business works.

It's just one more flaky, cranky, kludgy, unreliable, badly documented system. But master its quirks and intricacies, and you'll have a good shot at adding business value after all.

And just maybe, pure techie or not, you'll be a survivor, too.

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You Just Can't Be Too Careful
What a Monday: network glitches, hardware problems, and some practical joker has swiped this net admin pilot fish's coffee mug, just when he needs it most. "Late that morning, I quickly put the case back on the server, boot it up, and all is well," says fish. But he gives up on finding the mug – until two weeks later, when he traces an awful smell to that server. "I remove the cover and find my mug looking like some sort of science experiment gone wrong," fish reports. "That day, we put a lock on the server room door."
SHARK TANK

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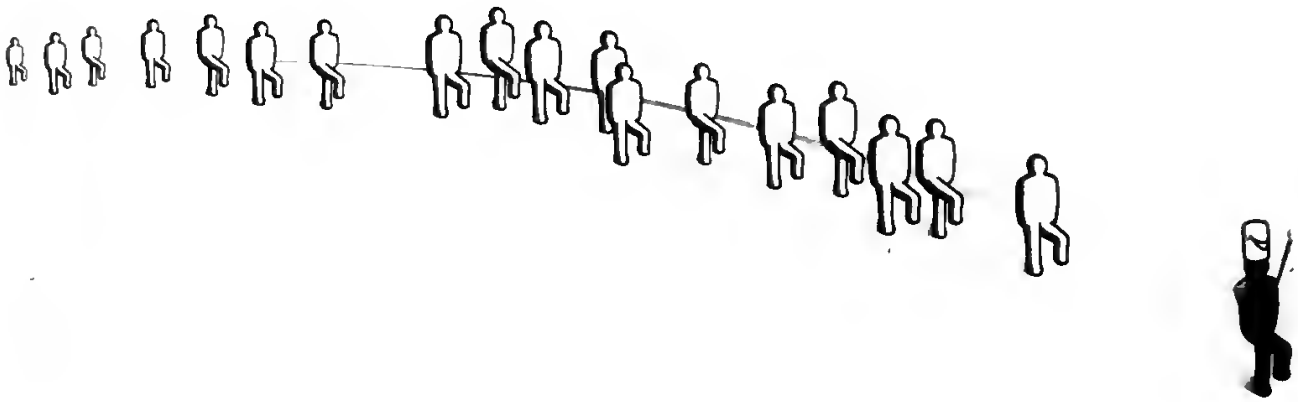

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